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Meeting Minutes Transmittal

300 Area Project Meeting
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

The undersigned indicate by their signatures that these meeting minutes reflect the actual occurrences of the above dated Unit Managers Meeting.

Maple A. Barnard, Project Manager, RL Date: 2/6/97

Jeanne J. Wallace, Project Manager, Washington State Department of Ecology Date: 2/6/97

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300 Area Project Meeting, PNNL Concurrence

David B. Crossley, Contractor Representative, PNNL Date: 3/3/97

Purpose: Discuss Permitting Process

Meeting Minutes are attached. The minutes are comprised of the following:

Attachment 1 - Agenda
Attachment 2 - Summary of Discussion and Commitments/Agreements
Attachment 3 - Attendance List
Attachment 4 - 314 Waste Analytical Results
Attachment 5 - Improved Segregation and Verification of Waste
Attachment 6 - cc:Mail message regarding drums from CWC to 324/327
Attachment 7 - Engineering Data Transmittal
Attachment 8 - RLW Load-out Modification Schedule
Attachment 9 - 340 Waste Handling Facility Deactivation Plan

Attachment 1

300 AREA PROJECT MEETING
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

Agenda

1. Approval of Past 300 Area and Non-Operational Units Project Managers Meeting Minutes.(Ecology/DOE-RL/PNNL) (J. McAtee)

2. Future Non-Operational Units Project Managers Meetings will be combined into the 300 Area Project Managers Meeting. (Ecology/DOE-RL/PNNL)

3. Status of Budget Issues (Ecology/DOE-RL/PNNL) (A. Barnard/ J. Fulton)

4. Schedule Variance and Funding (Ecology/DOE-RL/PNNL)

   - Status on RLWS System Proposals (Ecology/DOE-RL/PNNL) (A. Barnard/J. Fulton)

5. Status of 314 Building Issues (Ecology/DOE-RL/PNNL) (G.Thornton/M. Jarvis)

6. Status of Procedural Closure of 332 Storage Facility (Ecology) (G. Davis)

7. Efficiency Issues (Ecology/DOE-RL) (A. Barnard)

   - Low Level Waste Drum Issue (Ecology/DOE-RL/PNNL)

8. Status of Action Items (Ecology/DOE-RL/PNNL)

   11-04-96:1 Contact K. Christensen (Ecology) regarding his 2-16-96 voluntary compliance letter, which PNNL responded to in March 1996.
   ACTION: J. Wallace (Ecology)
   CLOSED

   12-10-96:1 Discuss with R. Christensen (DOE-RL) on Ecology's participation in the FY97 priority work setting activities.
   ACTION: M. Jarvis (DOE-RL)
   CLOSED - 12/16/96

09-05-96:2 (Carried over from Non-Ops)	Notify J. Wallace (Ecology) in writing if the decision is made not to recertify. ACTION: E. Mattlin (DOE-RL) CLOSED
11-04-96:1 (Carried over from Non-Ops)	Provide DOE-RL/PNNL a letter for the Biological Treatment Test Facility procedural closure, including a stamped "closed" on the document. ACTION: R. Effland (Ecology) CLOSED

9. General Discussion (Ecology/DOE-RL/PNNL)

10. New Action Items

12. Next Project Managers Meeting (Ecology/DOE-RL/PNNL)

- Next Meeting
  February 6, 1997
  337 Building, Mt. Rainier Room, 3rd Floor North
  Richland, Washington

- Proposed topics may be submitted to J. D. McAtee.

Attachment 2
300 AREA PROJECT MEETING
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

SUMMARY OF DISCUSSION AND COMMITMENTS/AGREEMENTS

7. Efficiency Issues

- Low Level Waste Drum Issue

  G. McNair provided a description of PNNL's waste management program efforts toward improved segregation and verification of waste (Attachment 5). The effort was a result of a potential issue that was identified in June 1996 when low-level drums were returned from Central Waste Complex (CWC) to the 324 and 327 Buildings due to the presence of prohibited or suspect items.

  The drums that are identified containing prohibited articles have been labeled as hazardous waste, moved to the 90-day storage area, and will undergo repackaging. G. McNair stated that PNNL is considering the 90-day accumulation start date to begin at the time Ecology's letter was received stating that the designation of waste was incorrect. B. Wilson (Ecology) stated Ecology's position is that the 90-day accumulation date starts when the waste generator (PNNL in this case) has knowledge that the drums contain hazardous waste.

  B. Wilson stated Ecology's main concern is the approach to control, and he specifically referred to container inventory sheets which are used for designation of waste. B. Flores (PNNL) asked if Ecology was satisfied with the controls that have been instituted and/or whether Ecology could provide input or suggestions. B. Wilson (Ecology) responded that the controls placed on the container inventory sheets are a positive step. G. McNair (PNNL) stated that a problem that waste management faces is the ability to record everything that potentially could give a dense spot on the realtime radiography (RTR).

  B. Wilson (Ecology) asked if there would be tighter controls associated with staging drums in cleanout areas. G. McNair (PNNL) responded that the larger boxes (4x4x8) are more difficult to RTR, and the material is now required to be staged in front of the box and loaded by waste management staff only. Eventually the intent would be to require a waste management certified staff member to oversee regulatory concerns.

Attachment 2
300 AREA PROJECT MEETING
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

SUMMARY OF DISCUSSION AND COMMITMENTS/AGREEMENTS

1. Approval of Past Project Managers Meeting Minutes

   The December 10, 1996, 300 Area Project Manager Meeting (PMM) minutes were approved.

2. Non-Operational Units Project Managers Meetings will be combined into the 300 Area Project Managers Meetings

   The Non-Operational PMM was not held this month, and the minutes from the December 10, 1996, Non-Operational PMM were signed during the 300 Area PMM. Any future issues pertaining to the Non-Operational units will be addressed during the 300 Area PMM.

3. Status of Budget Issues

   J. Fulton (PNNL) addressed budget issues during the 325 HWTU PMM.

4. Schedule Variance and Funding

   - Status on RLWS System Proposals

   J. Fulton addressed RLWS system proposals during the 1-9-97 325 HWTU PMM. Several documents were offered outlining the Management Plan inclusive of budget projections and performance schedules to be used to control project activities. Attachment 1 is the 340 Waste Handling Facility Deactivation Plan, Attachment 2 is the 325 RLW Load-out Modification Project schedule and line item budget projections. Attachment 3 represents PNNL continued dialogue with DOE-RL regarding funding resolution for RLWS modifications.

5. Status of 314 Building Issues

   G. McNair (PNNL) distributed a one-page summary of the 314 waste analytical results (Attachment 4). With regard to the regulated drums that are now located at 305-B in the permitted storage area (waste moved from the trench and pit at 314), J. Wallace (Ecology) stated that Ecology will be issuing PNNL a compliance letter which will contain corrective measures, some of which have already been accomplished.

6. Status of Procedural Closure of 332 Storage Facility

   G. Davis (Ecology) reported that Ecology is proceeding with the public notice announcing procedural closure of the 332 Facility. The tentative schedule that Ecology provided DOE-RL and PNNL has slipped 2-3 weeks. G. Davis will provide DOE-RL and PNNL a revised schedule.

Attachment 2
300 AREA PROJECT MEETING
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

SUMMARY OF DISCUSSION AND COMMITMENTS/AGREEMENTS

P. Weaver (B&W) provided a status of the drums that were stored at the 324 and 327 Facilities. The 327 Facility had 30 drums which had identified prohibited articles, and 29 of those drums were shipped to CWC on 1/7/97. The remaining drum was not shipped because the radionuclide characterization was not completed. That drum will have the suspect article removed and be repackaged at 327. Four drums have passed RTR and will be sent to the burial ground, and there are 40 drums remaining to be RTR'd.

There were 49 drums shipped from the 324 Facility to CWC on 1-9-97. There are 30 drums at 324 that have passed RTR, and they will be shipped directly to the burial ground. There are 32 drums remaining to be RTR'd, and they have been categorized into two groups: two of those drums were packaged previously to this issue being identified by Ecology; and the other 30 drums were packaged after the issue was identified.

P. Weaver (B&W) noted that the 12 drums which were packaged after the issue was identified by Ecology and after the corrective actions were implemented were RTR'd and no suspect or hazardous articles were identified. Prior to the corrective actions being implemented, the RTR failure rate was approximately 40 percent.

D. Rasmussen (DOE-RL) distributed a cc:mail which summarized the issue of the returned drums from CWC to 324 and 327 (Attachment 6).

J. Wallace (Ecology) noted that B. Wilson (Ecology) is the lead for compliance associated with the returned drums. B. Wilson requested a copy of the checklist for the container inventory for review and comment. G. McNair (PNNL) provided B. Wilson a packet of information pertaining to the drums returned to 324 and 327. B. Wilson inquired about designating information. B. Flores (PNNL) responded that DOE-RL will be making the decision about the approach it will take for designation. A. Barnard (DOE-RL) stated that she would provide Ecology a list of items that will be packaged and shipped.

8. Status of Action Items

11-04-96:1	Contact K. Christensen (Ecology) regarding his 2-19-96 voluntary compliance letter, which PNNL responded to in March 1996. This action item was CLOSED at the last PMM (12-10-96).

Attachment 2
300 AREA PROJECT MEETING
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

SUMMARY OF DISCUSSION AND COMMITMENTS/AGREEMENTS

12-10-96:1 Discuss with R. Christensen (DOE-RL) on Ecology's participation in the FY97 priority work setting activities.
This action item was CLOSED 12-16-96.

09-05-96:2 (carried over from Non-Ops PMM), notify J. Wallace (Ecology) in writing if the decision is made not to recertify.
Ecology was notified, this action item was CLOSED.

11-04-96:1 (carried over from Non-Ops PMM), provide DOE-RL/PNNL a letter for the Biological Treatment Test Facility procedural closure, including a stamped "closed" on the document.
Ecology documented its approval of procedural closure in the Project Manager Meeting held on 12/04/96, this action was CLOSED.

9. General Discussion

There were no items for general discussion.

10. New Action Items

01-09-97:1 G. Davis (Ecology) will provide DOE-RL/PNNL a revised schedule for the public comment period for the 332 Facility.
ACTION: G. Davis (Ecology)

01-09-97:2 A. Barnard (DOE-RL) will provide Ecology a list of items that will be packaged and shipped.
ACTION: A. Barnard (DOE-RL)

11. Next Project Managers Meeting

- Next Meeting
  February 6, 1997
  337 Building, Mt. Rainier Room, 3rd Floor North
  Richland, Washington

- Proposed Topics

  Proposed topics may be submitted to J.D. McAtee (PNNL), 372-3605.

Attachment 3

300 AREA PROJECT MEETING
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

Attendance List

Name	Organization	Phone Number
S. L. JONES	PNNL	376-7449
GARY McNAIR	PNNL	376-5192
Kathy Knox	Knox Court Reporting	946-5535
Harold Tilden	PNNL	376-0499
Greta Davis	Ecology	736-3025
Maple Alsbarmad	STO	372-4931
Jeanne Wallace	Ecology	736-3019
David B. Crossley	PNNL	373-3639
Bet Flores	PNNL	376-7632
Clifford E. Clark	RL-EAP	376-9333
Rick Gonzalez	RL-TPD	373-9922
Jaralyn McAtee	PNNL	372-3605
Patrick Weaver	BWH	376-3075
Tony McKarns	DOE-EAP	376-8981
Larry Romine	RL-TPD	376-4747
DAVID LANGSTAFF	RL-TPD	372-4013
DAVID E. RASMUSSEN	BWHC, 300 AREA STABILIZ. PROJ.	376-3288
Gloria D. Williams	RL-~~EAP~~	372-0586
Mary F. Jarvis	DOE-RL-STO	372-4054
Bob Cole	GEOLOGY	376-3031
RONNIE EFFLAND	ECOLOGY	736-3008
Craig Rieman	DOE-RL-STO	372-4020
Ken Brog	PNNL	373-9346
Brian J. Day	PNNL	376-3835

ELLEN MATTLIN	DOE	376-2385
Stephanie Johansen	Ernest Moore	376-5960
Mark Riess	PNNL	372-3517
G C Triner	RFSH	372-0771
DAVID TODAK	PNNL	376-7806
GREG LEBARON	B&W	3-1792

Attachment 4

300 AREA PROJECT MEETING
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

314 Waste Analytical Results

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

DRAFT

January 8, 1997

Ms. Mary F. Jarvis, Lead
Science and Technology Operations
U.S. Department of Energy
Richland Operations Offices
P.O. Box 550, K8-50
Richland, Washington 99352

Dear Ms. Jarvis:

Between October 8, 1996 and October 17, 1996, the pit (PTTS) and trench (east sump) within the 314 Building highbay were cleaned out under the direction of the Pacific Northwest National Laboratory's Waste Management Services Department. Twenty-two drums of material were collected and placed into containers as shown below:

Contents	#Drum	Drum Label	Location of Sample
Solid/Sludge	1	314-206	PTTS
Solid/Sludge	2	314-204-205	East Sump (trench)
Water	18	314-208-225	East Sump (trench)
Water	1	314-207	East Sump/PTTS

On October 31, 1996, samples were collected from the following drums:

- Drums #314 - 204/205/206 (sludge): Composite cores drawn through entire matrix.
- Drum #314 - 207 (East Sump/PTTS water): Sampled with new coliwasa tubes.
- Drum #314 - 208/209 (East Sump water): Sampled with new coliwasa tubes.

All samples were split to facilitate analysis, labeled, and transported to the Waste Sampling and Characterization Facility.

All samples:

- Polychlorinated biphenyl- method 8081
- D002 (corrosivity) - field analysis for pH
- D003 (reactivity) - methods 9010 and 9030 (cyanide and sulfide)
- D009 (toxicity) - method 7470 (cold vapor AA)
- D012, D013, D014, D015, D020, D031 (toxicity-pesticides) - method 8031
- D016, D017 (toxicity-herbicides) - method 8151
- D018, D019, D021, D022, D027, D028, D029, D035, D039, D040, D043, (toxicity - volatile organic analysis [VOA]) - method M260A
- D023, D024, D025, D026, D030, D032, D033, D034, D036, D037, D038, D041, D042 (toxicity-semi-VOA) - method 8270B
- D004, D005, D006, D007, D008, D010, D011 (toxicity) - toxicity characteristic leach procedure (TCLP) extraction of sludges, followed by method 6010 (ICP) on leachate and the liquid samples.

Liquid samples:

- D001 (ignitability) - method 1020 (flashpoint)

A summary of the analysis results are shown in Attachment 1. Results shown in bold exceeded regulatory limits and formed the basis for specific designations. A narrative description of the designations are as follows:

- Drum# 314-204: 47% solids/53% water mix with 63 ppm PCB and 1.9 ppm total mercury contamination. The total Hg/20 calculation does not place this drum below D009 levels since the drum is 53% liquid. The 1/20 method cannot be applied to the liquid fraction.

  This drum is designated as low-level mixed radioactive (Resource Conservation and Recovery Act [RCRA] - D009) PCB waste.

- Drum# 314-205: 90% solids/10% water mix with 22ppm lead TCLP results, 8.2 ppm PCB, and 3.3 ppm total mercury.

  This drum is designated as non-Toxic Substances Control Act (TSCA) regulated, low-level mixed radioactive (RCRA-D008 & D009) waste. Based upon meeting results, guidance from Bechtel's PCB subject matter expert, Rust Federal Services of Hanford, Inc. (RFSH) PCB Waste Designation Flowsheet, and negative results from a search for previous uses or sources of PCBs in the 314 Building highbay, it will not be managed as TSCA waste. Also, based upon the above, and as confirmed with RFSH staff, this drum will not be managed as Washington State Dangerous Waste - W001.

- Drum# 314-206: 50% solids/50% water mix with 9.9 ppm PCB and 30 ppm total mercury contamination.

  This drum is designated as non-TSCA regulated low-level Mixed radioactive (RCRA - D009) waste. The TSCA and W001 determinations were based upon the same background data as for drum #314-205.

- Drum# 314-207: 50% PTTS water/50% east sump water with 14 ppb PCB. No RCRA characteristics exist.

  This drum is designated as non-RCRA regulated, non-TSCA regulated low-level radioactive waste for disposal to the radioactive liquid waste system (RLWS). The TSCA and W001 determinations were based upon the same background data as for drum #314-205.

- Drums# 314-208 through 314-225 (random representative samples): All 100% water with no PCBs detected and no RCRA characteristics.

  These drums are designated as non-RCRA regulated, non-TSCA regulated low-level radioactive waste for disposal to the RLWS.

The above determinations are in alignment with information and guidance received from Bechtel and RFSH subject matter experts. In addition, three former staff members (during past 15 years) from the 314 Building were interviewed concerning potential PCB work conducted within the facility. To the best of their knowledge, no PCB work of any kind occurred in the 314 Building during or prior to there tenure.

The former staff members' notes will be maintained in the 314 Building cleanout project files. The 314 Building historical information obtained from the Hanford homepage also did not specifically note any past work within the facility that would have utilized PCBs or electrical equipment that contained large quantities of PCBs. However, the historical information did present numerous instances of process fires, explosions, and general radiological contamination events over the years that might have contributed to or resulted in PCB contamination. A brief outline of the effort to determine the original source of PCBs is being maintained in the 314 Building cleanout project files.

If you have any questions or concerns, please feel free to give me a call.

Sincerely,

Gary W. McNair, Manager
Waste Management Services Department

GWM:jg

Attachment

cc: EA Flores
SL Jones
GT Thornton
D Todak
File/LB

(509) 376-5192 gw_mcnair@pnl.gov (509) 376-8821

314 Waste Analysis Results

Drum # 314-206

Arsenic	.08 ug/mL	5 mg/L
Barium	3.37 ug/mL	100 mg/L
Cadmium	.108 ug/mL	1 mg/L
Chromium	.009 ug/mL	5 mg/L
Lead	.091 ug/mL	5 mg/L
***Mercury	30 ug/g	.2 mg/L
Selenium	.178 ug/mL	1 mg/L
Silver	.008 ug/mL	5 mg/L
PCBs	9900 ug/kg	50 ppm
Acetone	65 ug/kg	N/A
Total Xylenes	140 ug/kg	N/A
Acenaphthene	210 ug/kg	N/A
Pyrene	330 ug/kg	N/A
Sulfides	56 mg/kg	500 mg/kg
Designation - D009		

Drum # 314-205

Arsenic	.08 ug/mL	5 mg/L
Barium	1.09 ug/mL	100 mg/L
Cadmium	.008 ug/mL	1 mg/L
Chromium	.009 ug/mL	5 mg/L
***Lead	22.5 ug/mL	5 mg/L
***Mercury	3.3 ug/g	.2 mg/L
Selenium	.178 ug/mL	1 mg/L
Silver	.008 ug/mL	5 mg/L
PCBs	8200 ug/kg	50 ppm
Acetone	10 ug/kg	N/A
Pyrene	120 ug/kg	N/A
Cyanides	.09 mg/kg	250 mg/kg
Sulfides	32 mg/kg	500 mg/kg
Designation - D008, D009		

Drum # 314-204

Arsenic	.08 ug/mL	5 mg/L
Barium	.713 ug/mL	100 mg/L
Cadmium	.041 ug/mL	1 mg/L
Chromium	.009 ug/mL	5 mg/L
Lead	.647 ug/mL	5 mg/L
***Mercury	1.9 ug/g	.2 mg/L
Selenium	.178 ug/mL	1 mg/L
Silver	.008 ug/mL	5 mg/L
***PCBs	63000 ug/kg	50 ppm
Acetone	13 ug/kg	N/A
Cresols	480 ug/kg	200 mg/L
Acenaphthene	27 ug/kg	N/A
Pyrene	310 ug/kg	N/A
Cyanides	.066 mg/kg	250 mg/kg
Sulfides	.59 mg/L	500 mg/kg
Designation - D009, PCB Waste		

Drum # 314-209

Arsenic	73 ug/L	5 mg/L
Barium	113 ug/L	100 mg/L
Cadmium	7 ug/L	1 mg/L
Chromium	8 ug/L	5 mg/L
Lead	31 ug/L	5 mg/L
Selenium	163 ug/L	1 mg/L
Silver	7 ug/L	5 mg/L
Cyanides	.12 ug/L	250 mg/kg
Sulfides	4 mg/L	500 mg/kg
Designation - Non-Regulated		

Drum # 314-208

Arsenic	73 ug/L	5 mg/L
Barium	144 ug/L	100 mg/L
Cadmium	7 ug/L	1 mg/L
Chromium	8 ug/L	5 mg/L
Lead	31 ug/L	5 mg/L
Selenium	163 ug/L	1 mg/L
Silver	7 ug/L	5 mg/L
Cyanides	.77 ug/L	250 mg/kg
Sulfides	4 mg/L	500 mg/kg
Designation - Non-Regulated		

Drum # 314-207

Arsenic	73 ug/L	5 mg/L
Barium	735 ug/L	100 mg/L
Cadmium	7 ug/L	1 mg/L
Chromium	92 ug/L	5 mg/L
Lead	849 ug/L	5 mg/L
Selenium	163 ug/L	1 mg/L
Silver	7 ug/L	5 mg/L
PCBs	14 ug/L	50 ppm
Mercury	5.5 ug/L	.2 mg/L
Cyanides	.28 ug/L	250 mg/kg
Sulfides	4 mg/L	500 mg/kg
Designation - Non-Regulated		

Note: All of these wastes are considered low-level radioactive. The "designation" boxes refer to their status under RCRA and TSCA.

WSCF
ANALYTICAL LABORATORY REPORT

for

Westinghouse Hanford Company
Richland WA 99352

Attention: DAVID TODAK 376-7806

Report#: 96001693
Report Date: 9-dec-1996
W004
Westinghouse Hanford Company

WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004354	DT103096-1	2(2,4,5-Trichlorophenoxyp acid	SOLID	EPA 8151	U	0	ug/kg	12.26	10/31/96	10/31/96
W960004354	DT103096-1	2,4-Dichlorophenoxyacetic acid	SOLID	EPA 8151	U	0	ug/kg	12.26	10/31/96	10/31/96
W960004354	DT103096-1	Arsenic TCLP BY ICP	SOLID	EPA 6010A	U	0.080	ug/mL	8.00e-002	10/31/96	10/31/96
W960004354	DT103096-1	Barium TCLP BY ICP	SOLID	EPA 6010A		3.37	ug/mL	5.00e-003	10/31/96	10/31/96
W960004354	DT103096-1	Cadmium TCLP BY ICP	SOLID	EPA 6010A		0.108	ug/mL	8.00e-003	10/31/96	10/31/96
W960004354	DT103096-1	Chromium TCLP BY ICP	SOLID	EPA 6010A	U	0.009	ug/mL	9.00e-003	10/31/96	10/31/96
W960004354	DT103096-1	Lead TCLP BY ICP	SOLID	EPA 6010A		0.091	ug/mL	3.40e-002	10/31/96	10/31/96
W960004354	DT103096-1	Selenium TCLP BY ICP	SOLID	EPA 6010A	U	0.178	ug/mL	0.18	10/31/96	10/31/96
W960004354	DT103096-1	Silver TCLP BY ICP	SOLID	EPA 6010A	U	0.008	ug/mL	8.00e-003	10/31/96	10/31/96
W960004354	DT103096-1	4,4'-DDD	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	4,4'-DDE	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	4,4'-DDT	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	Aldrin	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	Aroclor-1016	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004354	DT103096-1	Aroclor-1221	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004354	DT103096-1	Aroclor-1232	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004354	DT103096-1	Aroclor-1242	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004354	DT103096-1	Aroclor-1248	SOLID	EPA 8081		9900	ug/kg	10.00	10/31/96	10/31/96
W960004354	DT103096-1	Aroclor-1254	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004354	DT103096-1	Aroclor-1260	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004354	DT103096-1	Dieldrin	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	Endosulfan I	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	Endosulfan II	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	Endosulfan sulfate	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	Endrin	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	Endrin Aldehyde	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96

MDL=Minimum Detection Limit
RQ=Result Qualifier

B - The analyte was detected in the associated method blank.
D - Compound concentration resulted from a dilution.
E - Compound concentration exceeded calibration range.
J - Estimated value.
N - Identification is based on a mass spectral library search.
U - The analyte was analyzed for but not detected.

* - Indicates results that have NOT been validated.

WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004354	DT103096-1	Endrin Ketone	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004354	DT103096-1	Heptachlor	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	Heptachlor epoxide	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	Methoxychlor	SOLID	EPA 8081	U	0	ug/kg	40.00	10/31/96	10/31/96
W960004354	DT103096-1	Toxaphene	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004354	DT103096-1	alpha-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	alpha-Chlordane	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	beta-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	delta-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	gamma-BHC (Lindane)	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	gamma-Chlordane	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004354	DT103096-1	1,1,1-Trichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	1,1,2-Trichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	5.40	10/31/96	10/31/96
W960004354	DT103096-1	1,1-Dichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.50	10/31/96	10/31/96
W960004354	DT103096-1	1,1-Dichloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.80	10/31/96	10/31/96
W960004354	DT103096-1	1,2-Dichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	1,2-Dichloroethene (cis & tran	SOLID	EPA 8260A	U	0.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	1,4-Dichlorobenzene (VOA/RCRA)	SOLID	EPA 8260A	U	0.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	2-Butanone	SOLID	EPA 8260A	U	0.000	ug/kg	4.70	10/31/96	10/31/96
W960004354	DT103096-1	2-Hexanone	SOLID	EPA 8260A	U	0.000	ug/kg	8.90	10/31/96	10/31/96
W960004354	DT103096-1	4-Methyl-2-pentanone	SOLID	EPA 8260A	U	0.000	ug/kg	7.30	10/31/96	10/31/96
W960004354	DT103096-1	Acetone	SOLID	EPA 8260A	B	65.000	ug/kg	5.10	10/31/96	10/31/96
W960004354	DT103096-1	Benzene	SOLID	EPA 8260A	U	0.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	Carbon Disulfide	SOLID	EPA 8260A	U	0.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	Carbon Tetrachloride	SOLID	EPA 8260A	U	0.000	ug/kg	2.20	10/31/96	10/31/96
W960004354	DT103096-1	Chlorobenzene	SOLID	EPA 8260A	U	0.000	ug/kg	3.40	10/31/96	10/31/96

MDL = Minimum Detection Limit
RQ = Result Qualifier

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D - Compound concentration resulted from a dilution.
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W004

WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004354	DT103096-1	Chloroform	SOLID	EPA 8260A	U	0.000	ug/kg	2.80	10/31/96	10/31/96
W960004354	DT103096-1	Methylene Chloride	SOLID	EPA 8260A	U	0.000	ug/kg	3.50	10/31/96	10/31/96
W960004354	DT103096-1	Tetrachloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.80	10/31/96	10/31/96
W960004354	DT103096-1	Toluene	SOLID	EPA 8260A	U	0.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	Total Xylenes (RCRA)	SOLID	EPA 8260A		140.000	ug/kg	3.20	10/31/96	10/31/96
W960004354	DT103096-1	Trichloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.50	10/31/96	10/31/96
W960004354	DT103096-1	Vinyl Chloride	SOLID	EPA 8260A	U	0.000	ug/kg	1.90	10/31/96	10/31/96
W960004354	DT103096-1	1,2,4-Trichlorobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	360.00	10/31/96	10/31/96
W960004354	DT103096-1	1,4-Dichlorobenzene SV-RCRA	SOLID	EPA 8270B	U	0.000	ug/kg	390.00	10/31/96	10/31/96
W960004354	DT103096-1	2,4,5-Trichlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	650.00	10/31/96	10/31/96
W960004354	DT103096-1	2,4,6-Trichlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	630.00	10/31/96	10/31/96
W960004354	DT103096-1	2,4-Dinitrotoluene	SOLID	EPA 8270B	U	0.000	ug/kg	520.00	10/31/96	10/31/96
W960004354	DT103096-1	2-Chlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	460.00	10/31/96	10/31/96
W960004354	DT103096-1	2-Methylphenol	SOLID	EPA 8270B	U	0.000	ug/kg	1.80e+003	10/31/96	10/31/96
W960004354	DT103096-1	3 & 4 Methylphenol Total,RCRA	SOLID	EPA 8270B	U	0.000	ug/kg	150.00	10/31/96	10/31/96
W960004354	DT103096-1	4-Chloro-3-methylphenol	SOLID	EPA 8270B	U	0.000	ug/kg	230.00	10/31/96	10/31/96
W960004354	DT103096-1	4-Nitrophenol	SOLID	EPA 8270B	U	0.000	ug/kg	2.30e+003	10/31/96	10/31/96
W960004354	DT103096-1	Acenaphthene	SOLID	EPA 8270B	J	210.000	ug/kg	500.00	10/31/96	10/31/96
W960004354	DT103096-1	Hexachlorobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	430.00	10/31/96	10/31/96
W960004354	DT103096-1	Hexachlorobutadiene	SOLID	EPA 8270B	U	0.000	ug/kg	440.00	10/31/96	10/31/96
W960004354	DT103096-1	Hexachloroethane	SOLID	EPA 8270B	U	0.000	ug/kg	480.00	10/31/96	10/31/96
W960004354	DT103096-1	N-Nitroso-di-n-propylamine	SOLID	EPA 8270B	U	0.000	ug/kg	350.00	10/31/96	10/31/96
W960004354	DT103096-1	Nitrobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	460.00	10/31/96	10/31/96
W960004354	DT103096-1	Pentachlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	1.30e+003	10/31/96	10/31/96
W960004354	DT103096-1	Phenol	SOLID	EPA 8270B	U	0.000	ug/kg	360.00	10/31/96	10/31/96
W960004354	DT103096-1	Pyrene	SOLID	EPA 8270B	J	330.000	ug/kg	490.00	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004354	DT103096-1	Pyridine	SOLID	EPA 8270B	U	0.000	ug/kg	1.50e+003	10/31/96	10/31/96
W960004354	DT103096-1	Cyanide by Midi/FIA	SOLID	LA-695-410	UJ	0.000	mg/kg	0.20	10/31/96	10/31/96
W960004354	DT103096-1	Mercury by Cold Vapor (HG32)	SOLID	LA-505-404		30	ug/g	5.00	10/31/96	10/31/96
W960004354	DT103096-1	Sulfide	SOLID	EPA 9031	J	56	mg/kg	40.00	10/31/96	10/31/96
W960004354	DT103096-1	Weight Percent Solids (Grav.)	SOLID	LA-544-441		49.9	%	1.00e-002	10/31/96	10/31/96
W960004358	DT103096-2	2(2,4,5-Trichlorophenoxyp acid	SOLID	EPA 8151	U	0	ug/kg	12.40	10/31/96	10/31/96
W960004358	DT103096-2	2,4-Dichlorophenoxyacetic acid	SOLID	EPA 8151	U	0	ug/kg	12.40	10/31/96	10/31/96
W960004358	DT103096-2	Arsenic TCLP BY ICP	SOLID	EPA 6010A	U	0.080	ug/mL	8.00e-002	10/31/96	10/31/96
W960004358	DT103096-2	Barium TCLP BY ICP	SOLID	EPA 6010A		1.09	ug/mL	5.00e-003	10/31/96	10/31/96
W960004358	DT103096-2	Cadmium TCLP BY ICP	SOLID	EPA 6010A	U	0.008	ug/mL	8.00e-003	10/31/96	10/31/96
W960004358	DT103096-2	Chromium TCLP BY ICP	SOLID	EPA 6010A	U	0.009	ug/mL	9.00e-003	10/31/96	10/31/96
W960004358	DT103096-2	Lead TCLP BY ICP	SOLID	EPA 6010A		22.5	ug/mL	3.40e-002	10/31/96	10/31/96
W960004358	DT103096-2	Selenium TCLP BY ICP	SOLID	EPA 6010A	U	0.178	ug/mL	0.18	10/31/96	10/31/96
W960004358	DT103096-2	Silver TCLP BY ICP	SOLID	EPA 6010A	U	0.008	ug/mL	8.00e-003	10/31/96	10/31/96
W960004358	DT103096-2	4,4'-DDD	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	4,4'-DDE	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	4,4'-DDT	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	Aldrin	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	Aroclor-1016	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004358	DT103096-2	Aroclor-1221	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004358	DT103096-2	Aroclor-1232	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004358	DT103096-2	Aroclor-1242	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004358	DT103096-2	Aroclor-1248	SOLID	EPA 8081		8200	ug/kg	10.00	10/31/96	10/31/96
W960004358	DT103096-2	Aroclor-1254	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004358	DT103096-2	Aroclor-1260	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004358	DT103096-2	Dieldrin	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004358	DT103096-2	Endosulfan I	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	Endosulfan II	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	Endosulfan sulfate	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	Endrin	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	Endrin Aldehyde	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	Endrin Ketone	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004358	DT103096-2	Heptachlor	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	Heptachlor epoxide	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	Methoxychlor	SOLID	EPA 8081	U	0	ug/kg	40.00	10/31/96	10/31/96
W960004358	DT103096-2	Toxaphene	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004358	DT103096-2	alpha-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	alpha-Chlordane	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	beta-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	delta-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	gamma-BHC (Lindane)	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	gamma-Chlordane	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004358	DT103096-2	1,1,1-Trichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	1,1,2-Trichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	5.20	10/31/96	10/31/96
W960004358	DT103096-2	1,1-Dichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.40	10/31/96	10/31/96
W960004358	DT103096-2	1,1-Dichloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.60	10/31/96	10/31/96
W960004358	DT103096-2	1,2-Dichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	1,2-Dichloroethene (cis & tran	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	1,4-Dichlorobenzene (VOA/RCRA)	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	2-Butanone	SOLID	EPA 8260A	U	0.000	ug/kg	4.60	10/31/96	10/31/96
W960004358	DT103096-2	2-Hexanone	SOLID	EPA 8260A	U	0.000	ug/kg	8.50	10/31/96	10/31/96
W960004358	DT103096-2	4-Methyl-2-pentanone	SOLID	EPA 8260A	U	0.000	ug/kg	7.00	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004358	DT103096-2	Acetone	SOLID	EPA 8260A	JB	10.000	ug/kg	4.90	10/31/96	10/31/96
W960004358	DT103096-2	Benzene	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	Carbon Disulfide	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	Carbon Tetrachloride	SOLID	EPA 8260A	U	0.000	ug/kg	2.10	10/31/96	10/31/96
W960004358	DT103096-2	Chlorobenzene	SOLID	EPA 8260A	U	0.000	ug/kg	3.60	10/31/96	10/31/96
W960004358	DT103096-2	Chloroform	SOLID	EPA 8260A	U	0.000	ug/kg	2.70	10/31/96	10/31/96
W960004358	DT103096-2	Methylene Chloride	SOLID	EPA 8260A	U	0.000	ug/kg	3.40	10/31/96	10/31/96
W960004358	DT103096-2	Tetrachloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.60	10/31/96	10/31/96
W960004358	DT103096-2	Toluene	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	Total Xylenes (RCRA)	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004358	DT103096-2	Trichloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.40	10/31/96	10/31/96
W960004358	DT103096-2	Vinyl Chloride	SOLID	EPA 8260A	U	0.000	ug/kg	1.80	10/31/96	10/31/96
W960004358	DT103096-2	1,2,4-Trichlorobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	36.00	10/31/96	10/31/96
W960004358	DT103096-2	1,4-Dichlorobenzene SV-RCRA	SOLID	EPA 8270B	U	0.000	ug/kg	39.00	10/31/96	10/31/96
W960004358	DT103096-2	2,4,5-Trichlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	65.00	10/31/96	10/31/96
W960004358	DT103096-2	2,4,6-Trichlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	63.00	10/31/96	10/31/96
W960004358	DT103096-2	2,4-Dinitrotoluene	SOLID	EPA 8270B	U	0.000	ug/kg	52.00	10/31/96	10/31/96
W960004358	DT103096-2	2-Chlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	46.00	10/31/96	10/31/96
W960004358	DT103096-2	2-Methylphenol	SOLID	EPA 8270B	U	0.000	ug/kg	180.00	10/31/96	10/31/96
W960004358	DT103096-2	3 & 4 Methylphenol Total,RCRA	SOLID	EPA 8270B	U	0.000	ug/kg	150.00	10/31/96	10/31/96
W960004358	DT103096-2	4-Chloro-3-methylphenol	SOLID	EPA 8270B	U	0.000	ug/kg	23.00	10/31/96	10/31/96
W960004358	DT103096-2	4-Nitrophenol	SOLID	EPA 8270B	U	0.000	ug/kg	230.00	10/31/96	10/31/96
W960004358	DT103096-2	Acenaphthene	SOLID	EPA 8270B	U	0.000	ug/kg	50.00	10/31/96	10/31/96
W960004358	DT103096-2	Hexachlorobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	43.00	10/31/96	10/31/96
W960004358	DT103096-2	Hexachlorobutadiene	SOLID	EPA 8270B	U	0.000	ug/kg	44.00	10/31/96	10/31/96
W960004358	DT103096-2	Hexachloroethane	SOLID	EPA 8270B	U	0.000	ug/kg	48.00	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004358	DT103096-2	N-Nitroso-di-n-propylamine	SOLID	EPA 8270B	U	0.000	ug/kg	35.00	10/31/96	10/31/96
W960004358	DT103096-2	Nitrobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	46.00	10/31/96	10/31/96
W960004358	DT103096-2	Pentachlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	130.00	10/31/96	10/31/96
W960004358	DT103096-2	Phenol	SOLID	EPA 8270B	U	0.000	ug/kg	36.00	10/31/96	10/31/96
W960004358	DT103096-2	Pyrene	SOLID	EPA 8270B	J	120.000	ug/kg	49.00	10/31/96	10/31/96
W960004358	DT103096-2	Pyridine	SOLID	EPA 8270B	U	0.000	ug/kg	150.00	10/31/96	10/31/96
W960004358	DT103096-2	Cyanide by Midi/FIA	SOLID	LA-695-410	UJ	0.09	mg/kg	0.20	10/31/96	10/31/96
W960004358	DT103096-2	Mercury by Cold Vapor (HG32)	SOLID	LA-505-404		3.3	ug/g	1.69	10/31/96	10/31/96
W960004358	DT103096-2	Sulfide	SOLID	EPA 9031	UJ	32	mg/kg	40.00	10/31/96	10/31/96
W960004358	DT103096-2	Weight Percent Solids (Grav.)	SOLID	LA-544-441		90.1	%	1.00e-002	10/31/96	10/31/96
W960004359	DT103096-3	2(2,4,5-Trichlorophenoxyp acid	SOLID	EPA 8151	U	0	ug/kg	11.57	10/31/96	10/31/96
W960004359	DT103096-3	2,4-Dichlorophenoxyacetic acid	SOLID	EPA 8151	U	0	ug/kg	11.57	10/31/96	10/31/96
W960004359	DT103096-3	Arsenic TCLP BY ICP	SOLID	EPA 6010A	U	0.080	ug/mL	8.00e-002	10/31/96	10/31/96
W960004359	DT103096-3	Barium TCLP BY ICP	SOLID	EPA 6010A		0.713	ug/mL	5.00e-003	10/31/96	10/31/96
W960004359	DT103096-3	Cadmium TCLP BY ICP	SOLID	EPA 6010A		0.041	ug/mL	8.00e-003	10/31/96	10/31/96
W960004359	DT103096-3	Chromium TCLP BY ICP	SOLID	EPA 6010A	U	0.009	ug/mL	9.00e-003	10/31/96	10/31/96
W960004359	DT103096-3	Lead TCLP BY ICP	SOLID	EPA 6010A		0.647	ug/mL	3.40e-002	10/31/96	10/31/96
W960004359	DT103096-3	Selenium TCLP BY ICP	SOLID	EPA 6010A	U	0.178	ug/mL	0.18	10/31/96	10/31/96
W960004359	DT103096-3	Silver TCLP BY ICP	SOLID	EPA 6010A	U	0.008	ug/mL	8.00e-003	10/31/96	10/31/96
W960004359	DT103096-3	4,4'-DDD	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	4,4'-DDE	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	4,4'-DDT	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	Aldrin	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	Aroclor-1016	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004359	DT103096-3	Aroclor-1221	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004359	DT103096-3	Aroclor-1232	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96

MDL=Minimum Detection Limit
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J - Estimated value.
N - Identification is based on a mass spectral library search.
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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004359	DT103096-3	Aroclor-1242	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004359	DT103096-3	Aroclor-1248	SOLID	EPA 8081		63000	ug/kg	10.00	10/31/96	10/31/96
W960004359	DT103096-3	Aroclor-1254	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004359	DT103096-3	Aroclor-1260	SOLID	EPA 8081	U	0	ug/kg	10.00	10/31/96	10/31/96
W960004359	DT103096-3	Dieldrin	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	Endosulfan I	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	Endosulfan II	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	Endosulfan sulfate	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	Endrin	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	Endrin Aldehyde	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	Endrin Ketone	SOLID	EPA 8081	U	0	ug/kg	8.00	10/31/96	10/31/96
W960004359	DT103096-3	Heptachlor	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	Heptachlor epoxide	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	Methoxychlor	SOLID	EPA 8081	U	0	ug/kg	40.00	10/31/96	10/31/96
W960004359	DT103096-3	Toxaphene	SOLID	EPA 8081	U	0	ug/kg	50.00	10/31/96	10/31/96
W960004359	DT103096-3	alpha-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	alpha-Chlordane	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	beta-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	delta-BHC	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	gamma-BHC (Lindane)	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	gamma-Chlordane	SOLID	EPA 8081	U	0	ug/kg	4.00	10/31/96	10/31/96
W960004359	DT103096-3	1,1,1-Trichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004359	DT103096-3	1,1,2-Trichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	5.10	10/31/96	10/31/96
W960004359	DT103096-3	1,1-Dichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.30	10/31/96	10/31/96
W960004359	DT103096-3	1,1-Dichloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.60	10/31/96	10/31/96
W960004359	DT103096-3	1,2-Dichloroethane	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004359	DT103096-3	1,2-Dichloroethene (cis & tran	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004359	DT103096-3	1,4-Dichlorobenzene (VOA/RCRA)	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004359	DT103096-3	2-Butanone	SOLID	EPA 8260A	U	0.000	ug/kg	4.50	10/31/96	10/31/96
W960004359	DT103096-3	2-Hexanone	SOLID	EPA 8260A	U	0.000	ug/kg	8.30	10/31/96	10/31/96
W960004359	DT103096-3	4-Methyl-2-pentanone	SOLID	EPA 8260A	U	0.000	ug/kg	6.80	10/31/96	10/31/96
W960004359	DT103096-3	Acetone	SOLID	EPA 8260A	JB	13.000	ug/kg	4.80	10/31/96	10/31/96
W960004359	DT103096-3	Benzene	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004359	DT103096-3	Carbon Disulfide	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004359	DT103096-3	Carbon Tetrachloride	SOLID	EPA 8260A	U	0.000	ug/kg	2.10	10/31/96	10/31/96
W960004359	DT103096-3	Chlorobenzene	SOLID	EPA 8260A	U	0.000	ug/kg	3.60	10/31/96	10/31/96
W960004359	DT103096-3	Chloroform	SOLID	EPA 8260A	U	0.000	ug/kg	2.70	10/31/96	10/31/96
W960004359	DT103096-3	Methylene Chloride	SOLID	EPA 8260A	U	0.000	ug/kg	3.30	10/31/96	10/31/96
W960004359	DT103096-3	Tetrachloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.60	10/31/96	10/31/96
W960004359	DT103096-3	Toluene	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004359	DT103096-3	Total Xylenes (RCRA)	SOLID	EPA 8260A	U	0.000	ug/kg	3.00	10/31/96	10/31/96
W960004359	DT103096-3	Trichloroethene	SOLID	EPA 8260A	U	0.000	ug/kg	3.30	10/31/96	10/31/96
W960004359	DT103096-3	Vinyl Chloride	SOLID	EPA 8260A	U	0.000	ug/kg	1.80	10/31/96	10/31/96
W960004359	DT103096-3	1,2,4-Trichlorobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	36.00	10/31/96	10/31/96
W960004359	DT103096-3	1,4-Dichlorobenzene SV-RCRA	SOLID	EPA 8270B	U	0.000	ug/kg	39.00	10/31/96	10/31/96
W960004359	DT103096-3	2,4,5-Trichlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	65.00	10/31/96	10/31/96
W960004359	DT103096-3	2,4,6-Trichlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	63.00	10/31/96	10/31/96
W960004359	DT103096-3	2,4-Dinitrotoluene	SOLID	EPA 8270B	U	0.000	ug/kg	52.00	10/31/96	10/31/96
W960004359	DT103096-3	2-Chlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	46.00	10/31/96	10/31/96
W960004359	DT103096-3	2-Methylphenol	SOLID	EPA 8270B	U	0.000	ug/kg	180.00	10/31/96	10/31/96
W960004359	DT103096-3	3 & 4 Methylphenol Total,RCRA	SOLID	EPA 8270B		480.000	ug/kg	150.00	10/31/96	10/31/96
W960004359	DT103096-3	4-Chloro-3-methylphenol	SOLID	EPA 8270B	U	0.000	ug/kg	23.00	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004359	DT103096-3	4-Nitrophenol	SOLID	EPA 8270B	U	0.000	ug/kg	230.00	10/31/96	10/31/96
W960004359	DT103096-3	Acenaphthene	SOLID	EPA 8270B	J	27.000	ug/kg	50.00	10/31/96	10/31/96
W960004359	DT103096-3	Hexachlorobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	43.00	10/31/96	10/31/96
W960004359	DT103096-3	Hexachlorobutadiene	SOLID	EPA 8270B	U	0.000	ug/kg	44.00	10/31/96	10/31/96
W960004359	DT103096-3	Hexachloroethane	SOLID	EPA 8270B	U	0.000	ug/kg	48.00	10/31/96	10/31/96
W960004359	DT103096-3	N-Nitroso-di-n-propylamine	SOLID	EPA 8270B	U	0.000	ug/kg	35.00	10/31/96	10/31/96
W960004359	DT103096-3	Nitrobenzene	SOLID	EPA 8270B	U	0.000	ug/kg	46.00	10/31/96	10/31/96
W960004359	DT103096-3	Pentachlorophenol	SOLID	EPA 8270B	U	0.000	ug/kg	130.00	10/31/96	10/31/96
W960004359	DT103096-3	Phenol	SOLID	EPA 8270B	U	0.000	ug/kg	36.00	10/31/96	10/31/96
W960004359	DT103096-3	Pyrene	SOLID	EPA 8270B	J	310.000	ug/kg	49.00	10/31/96	10/31/96
W960004359	DT103096-3	Pyridine	SOLID	EPA 8270B	U	0.000	ug/kg	150.00	10/31/96	10/31/96
W960004359	DT103096-3	Cyanide by Midi/FIA	SOLID	LA-695-410	UJ	0.066	mg/kg	0.20	10/31/96	10/31/96
W960004359	DT103096-3	Mercury by Cold Vapor (HG32)	SOLID	LA-505-404		1.9	ug/g	1.01	10/31/96	10/31/96
W960004359	DT103096-3	Sulfide	SOLID	EPA 9031	J	58	mg/L	10.00	10/31/96	10/31/96
W960004359	DT103096-3	Weight Percent Solids (Grav.)	SOLID	LA-544-441		47.3	%	1.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	2(2,4,5-Trichlorophenoxyp acid	WATER	EPA 8151	U	0	ug/L	2.47e-002	10/31/96	10/31/96
W960004360	DT103096-4	2,4-Dichlorophenoxyacetic acid	WATER	EPA 8151	U	0	ug/L	2.47e-002	10/31/96	10/31/96
W960004360	DT103096-4	4,4'-DDD	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	4,4'-DDE	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	4,4'-DDT	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Aldrin	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Aroclor-1016	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004360	DT103096-4	Aroclor-1221	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004360	DT103096-4	Aroclor-1232	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004360	DT103096-4	Aroclor-1242	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004360	DT103096-4	Aroclor-1248	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004360	DT103096-4	Aroclor-1254	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004360	DT103096-4	Aroclor-1260	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004360	DT103096-4	Dieldrin	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Endosulfan I	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Endosulfan II	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Endosulfan sulfate	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Endrin	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Endrin Aldehyde	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Endrin Keytone	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Heptachlor	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Heptachlor epoxide	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Methoxychlor	WATER	EPA 8081	U	0	ug/L	0.40	10/31/96	10/31/96
W960004360	DT103096-4	Toxaphene	WATER	EPA 8081	U	0	ug/L	0.50	10/31/96	10/31/96
W960004360	DT103096-4	alpha-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	alpha-Chlordane	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	beta-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	delta-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	gamma-BHC (Lindane)	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	gamma-Chlordane	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004360	DT103096-4	Arsenic by ICP	WATER	EPA 6010A	U	73.	ug/L	72.60	10/31/96	10/31/96
W960004360	DT103096-4	Barium by ICP	WATER	EPA 6010A		113.	ug/L	4.40	10/31/96	10/31/96
W960004360	DT103096-4	Cadmium by ICP	WATER	EPA 6010A	U	7.	ug/L	6.60	10/31/96	10/31/96
W960004360	DT103096-4	Chromium by ICP	WATER	EPA 6010A	U	8.	ug/L	7.70	10/31/96	10/31/96
W960004360	DT103096-4	Lead by ICP	WATER	EPA 6010A	U	31.	ug/L	30.80	10/31/96	10/31/96
W960004360	DT103096-4	Selenium by ICP	WATER	EPA 6010A	U	163.	ug/L	162.80	10/31/96	10/31/96
W960004360	DT103096-4	Silver by ICP	WATER	EPA 6010A	U	7.	ug/L	6.60	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004360	DT103096-4	1,1,1-Trichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	1,1,2-Trichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.70	10/31/96	10/31/96
W960004360	DT103096-4	1,1-Dichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004360	DT103096-4	1,1-Dichloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004360	DT103096-4	1,2-Dichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	1,2-Dichloroethene (cis & tran	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	1,4-Dichlorobenzene (VOA/RCRA)	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	1-Butanol	WATER	EPA 8260A	U	0.000	ug/L	190.00	10/31/96	10/31/96
W960004360	DT103096-4	2 Butanone	WATER	EPA 8260A	U	0.000	ug/L	1.50	10/31/96	10/31/96
W960004360	DT103096-4	2-Hexanone	WATER	EPA 8260A	U	0.000	ug/L	2.80	10/31/96	10/31/96
W960004360	DT103096-4	2-Pentanone	WATER	EPA 8260A	U	0.000	ug/L	2.00	10/31/96	10/31/96
W960004360	DT103096-4	4-Methyl-2-pentanone	WATER	EPA 8260A	U	0.000	ug/L	2.30	10/31/96	10/31/96
W960004360	DT103096-4	Acetone	WATER	EPA 8260A	U	0.000	ug/L	1.60	10/31/96	10/31/96
W960004360	DT103096-4	Benzene	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	Carbon Disulfide	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	Carbon Tetrachloride	WATER	EPA 8260A	U	0.000	ug/L	0.70	10/31/96	10/31/96
W960004360	DT103096-4	Chlorobenzene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004360	DT103096-4	Chloroform	WATER	EPA 8260A	U	0.000	ug/L	0.90	10/31/96	10/31/96
W960004360	DT103096-4	Ethyl cyanide	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	Methylene Chloride	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004360	DT103096-4	Tetrachloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004360	DT103096-4	Tetrahydrofuran	WATER	EPA 8260A	U	0.000	ug/L	12.00	10/31/96	10/31/96
W960004360	DT103096-4	Toluene	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	Total Xylenes (RCRA)	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004360	DT103096-4	Trichloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004360	DT103096-4	Vinyl Chloride	WATER	EPA 8260A	U	0.000	ug/L	0.60	10/31/96	10/31/96

MDL=Minimum Detection Limit
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N - Identification is based on a mass spectral library search.
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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W9600043 60	DT103096-4	1,4-Dichlorobenzene SV-RCRA	WATER	EPA 8270B	U	0.000	ug/L	2.00	10/31/96	10/31/96
W9600043 60	DT103096-4	2,4,5-Trichlorophenol	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W9600043 60	DT103096-4	2,4,6-Trichlorophenol	WATER	EPA 8270B	U	0.000	ug/L	0.45	10/31/96	10/31/96
W9600043 60	DT103096-4	2,4-Dinitrotoluene	WATER	EPA 8270B	U	0.000	ug/L	0.25	10/31/96	10/31/96
W9600043 60	DT103096-4	2-Methylphenol	WATER	EPA 8270B	U	0.000	ug/L	1.30	10/31/96	10/31/96
W9600043 60	DT103096-4	3 & 4 Methylphenol Total,RCRA	WATER	EPA 8270B	U	0.000	ug/L	1.30	10/31/96	10/31/96
W9600043 60	DT103096-4	Hexachlorobenzene	WATER	EPA 8270B	U	0.000	ug/L	0.48	10/31/96	10/31/96
W9600043 60	DT103096-4	Hexachlorobutadiene	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W9600043 60	DT103096-4	Hexachloroethane	WATER	EPA 8270B	U	0.000	ug/L	1.90	10/31/96	10/31/96
W9600043 60	DT103096-4	Nitrobenzene	WATER	EPA 8270B	U	0.000	ug/L	0.95	10/31/96	10/31/96
W9600043 60	DT103096-4	Pentachlorophenol	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W9600043 60	DT103096-4	Pyridine	WATER	EPA 8270B	U	0.000	ug/L	1.00	10/31/96	10/31/96
W9600043 60	DT103096-4	Cyanide by Midi/FIA	WATER	LA-695-410	U	0.12	ug/L	4.00	10/31/96	10/31/96
W9600043 60	DT103096-4	Ignitability (Setaflash)	WATER	TP950831		>100	deg. C	0.00	10/31/96	10/31/96
W9600043 60	DT103096-4	Mercury by Cold Vapor (HG32)	WATER	LA-505-404	U	0.0	ug/L	0.50	10/31/96	10/31/96
W9600043 60	DT103096-4	Sulfide	WATER	EPA 9030	U	4	mg/L	4.00	10/31/96	10/31/96
W9600043 61	DT103096-5	2(2,4,5-Trichlorophenoxyp acid	WATER	EPA 8151	U	0	ug/L	2.49e-002	10/31/96	10/31/96
W9600043 61	DT103096-5	2,4-Dichlorophenoxyacetic acid	WATER	EPA 8151	U	0	ug/L	2.49e-002	10/31/96	10/31/96
W9600043 61	DT103096-5	4,4'-DDD	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043 61	DT103096-5	4,4'-DDE	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043 61	DT103096-5	4,4'-DDT	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043 61	DT103096-5	Aldrin	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043 61	DT103096-5	Aroclor-1016	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W9600043 61	DT103096-5	Aroclor-1221	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W9600043 61	DT103096-5	Aroclor-1232	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W9600043 61	DT103096-5	Aroclor-1242	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96

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WSCF

ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004361	DT103096-5	Aroclor-1248	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004361	DT103096-5	Aroclor-1254	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004361	DT103096-5	Aroclor-1260	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004361	DT103096-5	Dieldrin	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Endosulfan I	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Endosulfan II	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Endosulfan sulfate	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Endrin	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Endrin Aldehyde	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Endrin Keytone	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Heptachlor	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Heptachlor epoxide	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Methoxychlor	WATER	EPA 8081	U	0	ug/L	0.40	10/31/96	10/31/96
W960004361	DT103096-5	Toxaphene	WATER	EPA 8081	U	0	ug/L	0.50	10/31/96	10/31/96
W960004361	DT103096-5	alpha-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	alpha-Chlordane	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	beta-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	delta-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	gamma-BHC (Lindane)	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	gamma-Chlordane	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004361	DT103096-5	Arsenic by ICP	WATER	EPA 6010A	U	73.	ug/L	72.60	10/31/96	10/31/96
W960004361	DT103096-5	Barium by ICP	WATER	EPA 6010A		144.	ug/L	4.40	10/31/96	10/31/96
W960004361	DT103096-5	Cadmium by ICP	WATER	EPA 6010A	U	7.	ug/L	6.60	10/31/96	10/31/96
W960004361	DT103096-5	Chromium by ICP	WATER	EPA 6010A	U	8.	ug/L	7.70	10/31/96	10/31/96
W960004361	DT103096-5	Lead by ICP	WATER	EPA 6010A	U	31.	ug/L	30.80	10/31/96	10/31/96
W960004361	DT103096-5	Selenium by ICP	WATER	EPA 6010A	U	163.	ug/L	162.80	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004361	DT103096-5	Silver by ICP	WATER	EPA 6010A	U	7.	ug/L	6.60	10/31/96	10/31/96
W960004361	DT103096-5	1,1,1-Trichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	1,1,2-Trichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.70	10/31/96	10/31/96
W960004361	DT103096-5	1,1-Dichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004361	DT103096-5	1,1-Dichloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004361	DT103096-5	1,2-Dichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/86
W960004361	DT103096-5	1,2-Dichloroethene (cis & tran	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	1,4-Dichlorobenzene (VOA/RCRA)	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	1-Butanol	WATER	EPA 8260A	U	0.000	ug/L	190.00	10/31/96	10/31/96
W960004361	DT103096-5	2-Butanone	WATER	EPA 8260A	U	0.000	ug/L	1.50	10/31/96	10/31/96
W960004361	DT103096-5	2-Hexanone	WATER	EPA 8260A	U	0.000	ug/L	2.80	10/31/96	10/31/96
W960004361	DT103096-5	2-Pentanone	WATER	EPA 8260A	U	0.000	ug/L	2.00	10/31/96	10/31/96
W960004361	DT103096-5	4-Methyl-2-pentanone	WATER	EPA 8260A	U	0.000	ug/L	2.30	10/31/96	10/31/96
W960004361	DT103096-5	Acetone	WATER	EPA 8260A	U	0.000	ug/L	1.60	10/31/96	10/31/96
W960004361	DT103096-5	Benzene	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	Carbon Disulfide	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	Carbon Tetrachloride	WATER	EPA 8260A	U	0.000	ug/L	0.70	10/31/96	10/31/96
W960004361	DT103096-5	Chlorobenzene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004361	DT103096-5	Chloroform	WATER	EPA 8260A	U	0.000	ug/L	0.90	10/31/96	10/31/96
W960004361	DT103096-5	Ethyl cyanide	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	Methylene Chloride	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004361	DT103096-5	Tetrachloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004361	DT103096-5	Tetrahydrofuran	WATER	EPA 8260A	U	0.000	ug/L	12.00	10/31/96	10/31/96
W960004361	DT103096-5	Toluene	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	Total Xylenes (RCRA)	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	Trichloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96

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D - Compound concentration resulted from a dilution.
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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W9600043G1	DT103096-5	Vinyl Chloride	WATER	EPA 8260A	U	0.000	ug/L	0.60	10/31/96	10/31/96
W960004361	DT103096-5	1,4-Dichlorobenzene SV-RCRA	WATER	EPA 8270B	U	0.000	ug/L	2.00	10/31/96	10/31/96
W960004361	DT103096-5	2,4,5-Trichlorophenol	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W960004361	DT103096-5	2,4,6-Trichlorophenol	WATER	EPA 8270B	U	0.000	ug/L	0.45	10/31/96	10/31/96
W960004361	DT103096-5	2,4-Dinitrotoluene	WATER	EPA 8270B	U	0.000	ug/L	0.25	10/31/96	10/31/96
W960004361	DT103096-5	2-Methylphenol	WATER	EPA 8270B	U	0.000	ug/L	1.30	10/31/96	10/31/96
W9600043G1	DT103096-5	3 & 4 Methylphenol Total,RCRA	WATER	EPA 8270B	U	0.000	ug/L	1.30	10/31/96	10/31/96
W960004361	DT103096-5	Hexachlorobenzene	WATER	EPA 8270B	U	0.000	ug/L	0.48	10/31/96	10/31/96
W960004361	DT103096-5	Hexachlorobutadiene	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W960004361	DT103096-5	Hexachloroethane	WATER	EPA 8270B	U	0.000	ug/L	1.90	10/31/96	10/31/96
W960004361	DT103096-5	Nitrobenzene	WATER	EPA 8270B	U	0.000	ug/L	0.95	10/31/96	10/31/96
W960004361	DT103096-5	Pentachlorophenol	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W960004361	DT103096-5	Pyridine	WATER	EPA 8270B	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004361	DT103096-5	Cyanide by Midi/FIA	WATER	LA-695-410	U	0.77	ug/L	4.00	10/31/96	10/31/96
W960004361	DT103096-5	Ignitability (Setaflash)	WATER	TP950831		>100	deg. C	0.00	10/31/96	10/31/96
W960004361	DT103096-5	Mercury by Cold Vapor (HG32)	WATER	LA-505-404	U	0.0	ug/L	0.50	10/31/96	10/31/96
W960004361	DT103096-5	Sulfide	WATER	EPA 9030	UJ	4	mg/L	4.00	10/31/96	10/31/96
W960004362	DT103096-6	2(2,4,5-Trichlorophenoxyp acid	WATER	EPA 8151	U	0	ug/L	2.49e-002	10/31/96	10/31/96
W960004362	DT103096-6	2,4-Dichlorophenoxyacetic acid	WATER	EPA 8151	U	0	ug/L	2.49e-002	10/31/96	10/31/96
W960004362	DT103096-6	4,4'-DDD	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004362	DT103096-6	4,4'-DDE	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004362	DT103096-6	4,4'-DDT	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W960004362	DT103096-6	Aldrin	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W960004362	DT103096-6	Aroclor-1016	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004362	DT103096-6	Aroclor-1221	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W960004362	DT103096-6	Aroclor-1232	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96

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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W9600043G2	DT103096-6	Aroclor-1242	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W9600043G2	DT103096-6	Aroclor-1248	WATER	EPA 8081		14	ug/L	0.10	10/31/96	10/31/96
W9600043G2	DT103096-6	Aroclor-1254	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W9600043G2	DT103096-6	Aroclor-1260	WATER	EPA 8081	U	0	ug/L	0.10	10/31/96	10/31/96
W9600043G2	DT103096-6	Dieldrin	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Endosulfan I	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Endosulfan II	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Endosulfan sulfate	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Endrin	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Endrin Aldehyde	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Endrin Keytone	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Heptachlor	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Heptachlor epoxide	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Methoxychlor	WATER	EPA 8081	U	0	ug/L	0.40	10/31/96	10/31/96
W9600043G2	DT103096-6	Toxaphene	WATER	EPA 8081	U	0	ug/L	0.50	10/31/96	10/31/96
W9600043G2	DT103096-6	alpha-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	alpha-Chlordane	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	beta-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	delta-BHC	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	gamma-BHC (Lindane)	WATER	EPA 8081	U	0	ug/L	4.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	gamma-Chlordane	WATER	EPA 8081	U	0	ug/L	8.00e-002	10/31/96	10/31/96
W9600043G2	DT103096-6	Arsenic by ICP	WATER	EPA 6010A	U	73.	ug/L	72.60	10/31/96	10/31/96
W9600043G2	DT103096-6	Barium by ICP	WATER	EPA 6010A	J	735.	ug/L	4.40	10/31/96	10/31/96
W9600043G2	DT103096-6	Cadmium by ICP	WATER	EPA 6010A	U	7.	ug/L	6.60	10/31/96	10/31/96
W9600043G2	DT103096-6	Chromium by ICP	WATER	EPA 6010A	J	92.	ug/L	7.70	10/31/96	10/31/96
W9600043G2	DT103096-6	Lead by ICP	WATER	EPA 6010A	J	849.	ug/L	30.80	10/31/96	10/31/96

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N - Identification is based on a mass spectral library search.
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* - Indicates results that have NOT been validated.

WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004362	DT103096-6	Selenium by ICP	WATER	EPA 6010A	U	163.	ug/L	162.80	10/31/96	10/31/96
W960004362	DT103096-6	Silver by ICP	WATER	EPA 6010A	U	7.	ug/L	6.60	10/31/96	10/31/96
W960004362	DT103096-6	1,1,1-Trichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	1,1,2-Trichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.70	10/31/96	10/31/96
W960004362	DT103096-6	1,1-Dichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004362	DT103096-6	1,1-Dichloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004362	DT103096-6	1,2-Dichloroethane	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	1,2-Dichloroethene (cis & tran	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	1,4-Dichlorobenzene (VOA/RCRA)	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	1-Butanol	WATER	EPA 8260A	U	0.000	ug/L	190.00	10/31/96	10/31/96
W960004362	DT103096-6	2-Butanone	WATER	EPA 8260A	U	0.000	ug/L	1.50	10/31/96	10/31/96
W960004362	DT103096-6	2-Hexanone	WATER	EPA 8260A	U	0.000	ug/L	2.80	10/31/96	10/31/96
W960004362	DT103096-6	2-Pentanone	WATER	EPA 8260A	U	0.000	ug/L	2.00	10/31/96	10/31/96
W960004362	DT103096-6	4-Methyl-2-pentanone	WATER	EPA 8260A	U	0.000	ug/L	2.30	10/31/96	10/31/96
W960004362	DT103096-6	Acetone	WATER	EPA 8260A	U	0.000	ug/L	1.60	10/31/96	10/31/96
W960004362	DT103096-6	Benzene	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	Carbon Disulfide	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	Carbon Tetrachloride	WATER	EPA 8260A	U	0.000	ug/L	0.70	10/31/96	10/31/96
W960004362	DT103096-6	Chlorobenzene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004362	DT103096-6	Chloroform	WATER	EPA 8260A	U	0.000	ug/L	0.90	10/31/96	10/31/96
W960004362	DT103096-6	Ethyl cyanide	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	Methylene Chloride	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004362	DT103096-6	Tetrachloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.20	10/31/96	10/31/96
W960004362	DT103096-6	Tetrahydrofuran	WATER	EPA 8260A	U	0.000	ug/L	12.00	10/31/96	10/31/96
W960004362	DT103096-6	Toluene	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	Total Xylenes (RCRA)	WATER	EPA 8260A	U	0.000	ug/L	1.00	10/31/96	10/31/96

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D - Compound concentration resulted from a dilution.
E - Compound concentration exceeded calibration range.
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WSCF
ANALYTICAL LABORATORY REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Performed	Matrix	Method	RQ	Result	Units	MDL	Sampled	Received
W960004362	DT103096-6	Trichloroethene	WATER	EPA 8260A	U	0.000	ug/L	1.10	10/31/96	10/31/96
W960004362	DT103096-6	Vinyl Chloride	WATER	EPA 8260A	U	0.000	ug/L	0.60	10/31/96	10/31/96
W960004362	DT103096-6	1,4-Dichlorobenzene SV-RCRA	WATER	EPA 8270B	U	0.000	ug/L	2.00	10/31/96	10/31/96
W960004362	DT103096-6	2,4,5-Trichlorophenol	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W960004362	DT103096-6	2,4,6-Trichlorophenol	WATER	EPA 8270B	U	0.000	ug/L	0.45	10/31/96	10/31/96
W960004362	DT103096-6	2,4-Dinitrotoluene	WATER	EPA 8270B	U	0.000	ug/L	0.25	10/31/96	10/31/96
W960004362	DT103096-6	2-Methylphenol	WATER	EPA 8270B	U	0.000	ug/L	1.30	10/31/96	10/31/96
W960004362	DT103096-6	3 & 4 Methylphenol Total,RCRA	WATER	EPA 8270B	U	0.000	ug/L	1.30	10/31/96	10/31/96
W960004362	DT103096-6	Hexachlorobenzene	WATER	EPA 8270B	U	0.000	ug/L	0.48	10/31/96	10/31/96
W960004362	DT103096-6	Hexachlorobutadiene	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W960004362	DT103096-6	Hexachloroethane	WATER	EPA 8270B	U	0.000	ug/L	1.90	10/31/96	10/31/96
W960004362	DT103096-6	Nitrobenzene	WATER	EPA 8270B	U	0.000	ug/L	0.95	10/31/96	10/31/96
W960004362	DT103096-6	Pentachlorophenol	WATER	EPA 8270B	U	0.000	ug/L	1.80	10/31/96	10/31/96
W960004362	DT103096-6	Pyridine	WATER	EPA 8270B	U	0.000	ug/L	1.00	10/31/96	10/31/96
W960004362	DT103096-6	Cyanide by Midi/FIA	WATER	LA-695-410	U	0.28	ug/L	4.00	10/31/96	10/31/96
W960004362	DT103096-6	Ignitability (Setaflash)	WATER	TP950831		>100	deg. C	0.00	10/31/96	10/31/96
W960004362	DT103096-6	Mercury by Cold Vapor (HG32)	WATER	LA-505-404		5.5	ug/L	0.50	10/31/96	10/31/96
W960004362	DT103096-6	Sulfide	WATER	EPA 9030	UJ	4	mg/L	4.00	10/31/96	10/31/96

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WSCF
ANALYTICAL COMMENT REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC.

Sample #	Client ID	Lab Area	Test	Comment
		VALGROUP		SV: Solid samples all contained significant amounts of hydrocarbon material 4354 > 4359 > 4358. Liquid samples also had hydrocarbon material. Samples 4360 & 4361 slightly elevated baseline. Sample 4362 large lump RT 12-25 min. TICs indicated PCB present in samples W960004358 & 4359. Some of the TICs in W960004360 could be from nitration of surrogate. The liquid samples were received in plastic bottles. SULFIDE: Low spike recovery (63%). No sample preservation record.
W960004354	DT103096-1	TESTDATA	Cyanide by Midi/FIA	ESTIMATE DUE TO LOW SPIKE RECOVERIES
W960004358	DT103096-2	TESTDATA	Cyanide by Midi/FIA	ESTIMATE DUE TO LOW SPIKE RECOVERIES
W960004359	DT103096-3	TESTDATA	Cyanide by Midi/FIA	ESTIMATE DUE TO LOW SPIKE RECOVERIES
		TESTDATA	Pest/PCBs by EPA SW-846 8081	Chlorinated biphenyls interfered with MS/MSD recoveries.
		TESTDATA	Sulfide	Analysis of supernatant.
		VALTEST	TCLP - SV by 8270	2-fluorophenol could not be quanted due to interference from large peak.
W960004360	DT103096-4	TESTDATA	Ignitability (Setaflash)	IGNBY: Sample did not flash in range of instrument(20-100 C)
W960004361	DT103096-5	TESTDATA	Ignitability (Setaflash)	IGNBY: Sample did not flash in range of instrument(20-100 C)
W960004362	DT103096-6	TESTDATA	Endrin	Chlorinated biphenyls interfered with MS/MSD recoveries.
		TESTDATA	Ignitability (Setaflash)	IGNBY: Sample did not flash in range of instrument(20-100 C)
		TESTDATA	RCRA Metals ICP Analysis	Results were estimated due to high CCV recoveries.

Lab Areas: VALGROUP - Group Validation
LOGSAMP - Login for Sample
VALTEST - Test Validation
LOGTEST - Login for Tests
TESTDATA - Test Data Entry

WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Name	Peak Name			RQ	Result	Units
W960004354	DT103096-1	SW-846 8260A VOA	SMP	RT = 11.791	60066-50-4	NJ	97.000	ug/Kg
W960004354	DT103096-1	SW-846 8260A VOA	SMP	RT = 20.768	464-49-3	NJ	610.000	ug/Kg
	DT103096-1	TCLP - SV by 8270	BLANK	RT = 14.915	84-74-2	NJ	190.000	ug/Kg
	DT103096-1	TCLP - SV by 8270	BLANK	RT = 5.124	Unknown	J	150.000	ug/Kg
	DT103096-1	TCLP - SV by 8270	BLANK	RT = 5.319	Unknown	J	83.000	ug/Kg
	DT103096-1	TCLP - SV by 8270	BLANK	RT = 7.204	Unknown	J	120.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 10.728	Unknown	J	540.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 11.666	4957-14-6	NJ	1100.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 12.029	21895-16-9	NJ	960.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 12.342	Unknown	J	630.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 14.258	Unknown	J	740.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 14.367	84-15-1	NJ	4400.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 14.929	84-66-2	NJ	3000.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 16.028	593-45-3	NJ	2000.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 19.950	117-81-7	NJ	11000.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 4.772	108-38-3	NJ	1800.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 5.221	Unknown	JB	790.000	ug/Kg
W960004354	DT103096-1	TCLP - SV by 8270	SMP	RT = 6.823	Unknown	J	730.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 13.293	3622-84-2	NJ	600.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 14.280	38444-90-5	NJ	580.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 14.942	84-74-2	JB	1900.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 15.319	41464-43-1	NJ	340.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 16.032	41464-42-0	NJ	340.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 16.112	33284-52-5	NJ	430.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 16.162	25429-29-2	NJ	850.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 16.598	56558-18-0	NJ	550.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 16.837	57-11-4	NJ	670.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 18.854	Unknown	J	410.000	ug/Kg

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WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Name	Peak Name			RQ	Result	Units
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 19.928	117-81-7	NJ	850.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 23.894	Unknown	J	580.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 5.630	Unknown	J	2000.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 6.160	Unknown	J	2300.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 6.513	Unknown	J	580.000	ug/Kg
W960004358	DT103096-2	TCLP - SV by 8270	SMP	RT = 6.827	Unknown	J	750.000	ug/Kg
W960004359	DT103096-3	SW-846 8260A VOA	SMP	RT = 24.107	2461-18-9	NJ	19.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 13.368	38444-86-9	NJ	3000.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 13.736	38444-86-9	NJ	1200.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 14.362	38444-86-9	NJ	5200.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 14.512	55702-46-0	NJ	1800.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 15.010	41464-42-0	NJ	3400.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 15.100	41464-42-0	NJ	1800.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 15.150	41464-42-0	NJ	1400.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 15.399	41464-40-8	NJ	2500.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 15.649	32598-11-1	NJ	1400.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 16.108	41464-49-7	NJ	1600.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 16.238	52663-59-9	NJ	7900.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 16.288	15968-05-5	NJ	4600.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 16.568	41464-42-0	NJ	1900.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 16.668	31508-00-6	NJ	1100.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 23.953	Unknown	J	890.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 5.448	5166-53-0	NJ	940.000	ug/Kg
W960004359	DT103096-3	TCLP - SV by 8270	SMP	RT = 6.164	Unknown	J	930.000	ug/Kg
W960004360	DT103096-4	SW-846 8260A VOA	SMP	RT = 5.582	Unknown	J	20.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT = 3.590	Unknown	J	8.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT = 3.648	108-10-1	JB	10.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT = 3.736	Unknown	J	5.000	ug/L

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TENTATIVELY IDENTIFIED PEAK REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Name	Peak Name			RQ	Result	Units
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=4.176	Unknown	JB	3.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=4.264	Unknown	JB	3.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=4.352	Unknown	JB	4.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=4.899	Unknown	J	22.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=4.997	Unknown	J	4.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=5.270	Unknown	JB	14.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=5.671	Unknown	J	9.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=6.804	0-00-0	NJ	6.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=6.931	1526-17-6	NJ	4.000	ug/L
W960004360	DT103096-4	TCLP - SV by 8270	SMP	RT=8.483	0-00-0	NJ	3.000	ug/L
W960004361	DT103096-5	TCLP - SV by 8270	SMP	RT=3.345	123-91-1	NJ	4.000	ug/L
W960004361	DT103096-5	TCLP - SV by 8270	SMP	RT=3.648	108-10-1	JB	7.000	ug/L
W960004361	DT103096-5	TCLP - SV by 8270	SMP	RT=4.175	Unknown	JB	7.000	ug/L
W960004361	DT103096-5	TCLP - SV by 8270	SMP	RT=4.351	Unknown	JB	2.000	ug/L
W960004361	DT103096-5	TCLP - SV by 8270	SMP	RT=5.357	Unknown	JB	3.000	ug/L
W960004362	DT103096-6	SW-846 8260A VOA	SMP	RT=5.582	Unknown	J	8.000	ug/L
	DT103096-6	TCLP - SV by 8270	BLANK	RT=3.638	108-10-1	NJ	6.000	ug/L
	DT103096-6	TCLP - SV by 8270	BLANK	RT=4.165	Unknown	J	7.000	ug/L
	DT103096-6	TCLP - SV by 8270	BLANK	RT=4.351	Unknown	J	3.000	ug/L
	DT103096-6	TCLP - SV by 8270	BLANK	RT=5.356	Unknown	J	3.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=12.090	70-55-3	NJ	2.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=12.502	Unknown	J	3.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=14.933	Unknown	J	3.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=15.279	Unknown	J	7.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=17.775	Unknown	J	13.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=19.920	117-81-7	NJ	9.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=19.999	Unknown	J	14.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=22.001	Unknown	J	7.000	ug/L

RQ=Result Qualifier

B - The analyte was detected in the associated method blank.
J - Estimated value.
N - Identification is based on a mass spectral library search.
U - The analyte was analyzed for but not detected.

WSCF

TENTATIVELY IDENTIFIED PEAK REPORT

Attention: DAVID TODAK 376-7806 **Group #:** 96001693
Project Number MISC. :MISCELLANEOUS WHC PROJECTS

Sample #	Client ID	Test Name	Peak Name			RQ	Result	Units
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=3.638	108-10-1	JB	7.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=4.166	Unknown	JB	5.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=4.244	Unknown	JB	3.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=4.899	Unknown	J	4.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=5.124	Unknown	J	3.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=5.270	Unknown	JB	5.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=5.358	Unknown	JB	2.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=5.671	Unknown	J	3.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=7.880	105-60-2	NJ	2.000	ug/L
W960004362	DT103096-6	TCLP - SV by 8270	SMP	RT=9.914	872-05-9	NJ	4.000	ug/L

RQ=Result Qualifier

B - The analyte was detected in the associated method blank.
J - Estimated value.
N - Identification is based on a mass spectral library search.
U - The analyte was analyzed for but not detected.

Attachment 5

300 AREA PROJECT MEETING
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

Improved Segregation and Verification of Waste

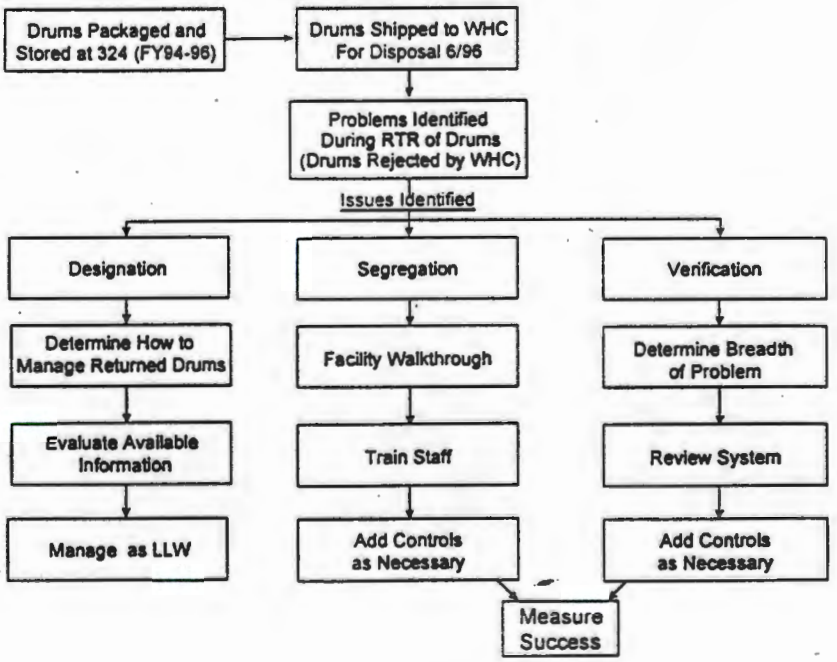
PNNL's Waste Management Program

Efforts Toward Improved Segregation and Verification

January 9, 1996

Gary McNair
376-5192

Chronology of Events



Segregation

- Facility Walkthrough
  - Generator Assistance walkthrough of 324 Facility - Initial findings transmitted by E-mail on 6/7/96.
- Train Staff
  - Revised Low-Level Waste Generator training materials to emphasize need for improved segregation.
  - Hands-on waste documentation added.
- Add Control as Necessary
  - Revised PNNL Waste Inventory Sheet.
  - PNNL waste staff will field screen 5% of liquid waste containers prior to shipment.

Segregation (contd).

- Add Controls as Necessary
  - During Generator Assistance Walkthroughs visual verification of containers will be performed (WHC staff invited to attend) .
  - Remaining drums in 324 (sealed prior to 7/1/96) will undergo RTR examination.
  - Postings for prohibited articles placed at waste packaging/accumulation areas.

Measure Success

- LLW Shipments from 7/10/96 - 9/30/96
  - 21 LLW shipments total
    - 6 Hittman Liners
    - 76 boxes (4x4x8)
    - 90 55-gallon drums
    - 35 overpack drums
  - 3 Shipments Rejected
    - 12 55-gallon drums
    - 2 boxes

Measure Success (contd).

- Cause of Failures
  - Drums (12)
    - 2 light bulbs
    - 2 free liquid
    - 2 void space
    - 6 suspect lead
  - Boxes (2)
    - 1 light bulb
    - 1 5 ml liquid

Add Controls as Necessary

- Six Month Pilot
  - 100% RTR examination of drums packaged prior to 10/1/96 (special case exemptions).
  - Visual inspection by Waste Management staff or RTR for all drums packaged post 10/1/96.
  - Precompaction checklist developed for compactible drums (17 requirements).
  - Larger boxes subject to above criteria plus five additional items.

Precompaction Checklist

- All items packaged within waste bags must be clearly identifiable (if this cannot be satisfactorily completed, then the Waste Management contact will follow the criteria listed in Item #1 when opening any inner containers).
- The inner bags should be limited to <20 kg.
- The inner bag must have enough free space to allow for identification of the internal contents (includes small bags of hood waste).
- The size of the bag should be 35 gallons.
- The bag must be horsetailed at the top to allow free space and visual inspection (width of tape recommended to be 3 inches).
- The bag must be horsetailed at the top to allow free space and visual inspection (width of tape recommended to be 3 inches).

Precompaction Checklist (contd).

- All lids and caps must be removed from containers that previously held liquids.
- Absorbent must be added to any container(s) that previously contained liquids (or added to the inner package in which the items are placed). (Absorb twice the amount of liquid present).
- Free liquids may only be present in ampule type containers.
- All containers must be empty or clearly labeled to identify the contents.
- Two percent absorbent must be added to all waste packages before compaction.
- Light bulbs or batteries must not be present.
- All suspect hazardous items must be removed before compaction.

Precompaction Checklist (contd).

- Aerosol cans must be empty and punctured.
- Sharp articles must be taped and padded to prevent damage to the liner.
- The visual inspection process must be completed prior to or at the time of compaction.
- Use lightly colored yellow bags

Add Controls as Necessary (contd).

- Six Month Pilot (contd.)
  - Investigate in-line x-ray equipment.
  - Update Waste Inventory Sheet.
- Training slides/training began in December.

Verification

- RTR remaining drums in 324.
- RTR of drums in 325.
- Examine drums returned from WHC.

Verification Statistics (Drums)

Rejected For	# of Containers	Confirmed	False Positive	Number of Containers	Comments
Light Bulbs	5	3	-	5	anticipate all 5 durms will contain light bulbs
>10% void space	3	1	-	2	additional LLW was added to drum
Suspect lead (sheets, chips, gloves, etc.)	27	1	17	9	bushings, drywall, crushed cans, rust chips, etc., appeared as dark spots. Single confirmation was 1/3" diameter lead seal
Free Liquids	7	-	1	6	liquid found to be crushed/powdered glass in vial cap - (LLW)*
Miscellaneous	3	-	-	3	empty spray cans that do not show puncture mark to prove non-pressurization

*Most free liquid appear in the 1 to 5 ml volume range. Published acceptance criteria permitted 1% total volume to be free liquids. Following rejection, PNNL informed that published criteria was invalid and new criteria would be published.

Verification Statistics (Drums)

Rejected For	# of Containers	Confirmed	False Positive	Number of Containers	Comments
Light Bulbs	5	-	-	5	anticipate all 5 durms will contain light bulbs
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Free Liquids	7	-	1	6	liquid found to be crushed/powdered glass in vial cap - (LLW)*
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*Most free liquid appear in the 1 to 5 ml volume range. Published acceptance criteria permitted 1% total volume to be free liquids. Following rejection, PNNL informed that published criteria was invalid and new criteria would be published.

Attachment 6

300 AREA PROJECT MEETING
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

cc:Mail Message Covering Drums from CWC to 324/327

[149] From: David E Rasmussen at ~WHC40 1/9/97 10:06AM (6312 bytes: 69 ln)
To: Francis J (Frank) Carvo at ~WHC42, Clifford E (Cliff) Clark at ~DOE13, Brian J Day at ~PNL89, Elizabeth A (Bet) Flores at ~PNL9B, Thomas P (Tom) Frazier at ~HANFORD01E, R X (Rick) Gonzalez at ~DOE16, Eric M Greager at ~WHC302, Karl A Hadley at ~HANFORD04B, Robert F Haight at ~WHC82, George O Hayner at ~HANFORD08A, Alan M Horner at ~KEH9, Scott B Johnston at ~WHC8, David C Langstaff at ~WHC276, Gregory J LeBaron at ~WHC139, Peter L Miller at ~PNL23, Albert Montelongo at ~WHC396, Stephen A Norling at ~WHC326, Jack L Pierce at ~PNL36, David E Rasmussen, Mark J Riess at ~PNL36, Larry D Romine at ~EXCHANGE, James M Seay at ~WHC93, Carl D (Dennis) Sorensen at ~HANFORD05D, Jim M Steffen at ~WHC42, Stephen A Szendre at ~WHC304, Harold T II Tilden at ~PNL9B, Patrick J Weaver at ~KEH9, Gloria A Williams at ~DOE9, Malcolm S (Mal) Wright at ~WHC229, Mac R Zumhoff at ~WHC8
Subject: 324/327 Waste Drum Summary
---------- Forwarded ----------
From: David E Rasmussen at ~WHC40 1/8/97 5:36PM (4792 bytes: 69 ln)
To: Patrick J Weaver at ~KEH9, Malcolm S (Mal) Wright at ~WHC229, James M Seay at ~WHC93, Mac R Zumhoff at ~WHC8
cc: David E Rasmussen
Subject: 324/327 Waste Drum Summary
---------- Message Contents ----------

324/327 Waste Drum Summary

Groups of Low-Level Waste (LLW) drums were returned from the Central Waste Complex (CWC) to the 324 and 327 Buildings in June 1996 due to the presence of prohibited or suspect items (light bulbs, batteries, fuses, potential lead, pencil dosimeters, potential free liquid, etc.). These items were detected during radiography inspection performed at the CWC. Eighteen of the 34 drums shipped from the 324 Building were rejected, and two of the seven drums shipped from the 327 Building were rejected due to these prohibited or suspect items detected during the real-time radiography (RTR) inspection. All of the drums were returned to the facilities because the shipments were rejected based on the radiography results.

There are currently 111 drums at the 324 Building, including the 34 returned drums, 35 drums packaged through 6/96 prior to discovery of the problem, and 42 drums packaged from approximately 7/96 through 9/96 after the problem was discovered and corrective measures were initiated. Radiography has been performed on 79 of the 111 drums at the 324 Building, with 49 drums identified as needing repackaging to remove prohibited or suspect items. All 49 of the drums identified for repackaging were from the drums packaged prior to when the problem first became apparent (when the 6/96 shipment was rejected). Radiography was performed on 12 of the 42 drums packaged since the problem was discovered (and corrective actions were initiated), with none of those 12 drums showing reject features.

There are currently 74 drums at the 327 Building, including the seven returned drums and 67 drums packaged at the 327 Building through 8/96. Radiography has been completed on 10 of the 74 drums at the 327 Building, with six drums showing reject features. Review of drum contents documentation identified 24 drums for repackaging due to presence of light

bulbs, making a total of 30 drums at the 327 Building needing repackaging.

Drums from the 324 and 327 Buildings which require repackaging due to prohibited or suspect items are being prepared for shipment on an expedited basis to T-Plant for more efficient and timely repackaging. Shipment of the 49 drums from the 324 Building is scheduled for 1/09/97. Shipment of 29 of the 30 drums from the 327 Building was completed on 1/07/97. The one drum remaining at 327 Building did not have non-destructive assay (NDA) data available at this time and will be repackaged at the 327 Building.

The subject 324 and 327 Building drums were originally generated as LLW based on the normal waste stream contents, and were managed as LLW drums until guidance was received on 12/31/96 from the Washington State Department of Ecology (Ecology) indicating that "drums containing waste that would designate as dangerous waste must be managed as such until sufficient and adequate information is provided to demonstrate they contain only low level waste and meet TSD acceptance criteria". Management as LLW prior to that time was based on the a waste matrix concept and the very small quantity of hazardous material (lead) contained in the overall waste matrix in the waste drums. Drums containing prohibited or suspect mixed waste items based on drum radiography results or drum contents inventory documentation are now being managed and stored as mixed waste based on the aforementioned guidance from Ecology.

Dave Rasmussen 1/08/97

Attachment 7

300 AREA PROJECT MEETING
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

Engineering Data Transmittal

V Briggs

AUG 20 1996 (20)
Ea. 37

ENGINEERING DATA TRANSMITTAL

1. EDT 618201

2. To: (Receiving Organization)	3. From: (Originating Organization)	4. Related EDT No.:
Distribution	300 Area LEF Engineering	615577
5. Proj./Prog./Dept./Div.:	**6. Design Authority/ Design Agent/Cog. Engr.:**	**7. Purchase Order No.:**
Liquid Effluents/PSS	L.D. Berneski/R.T. Stordeur	N/A
8. Originator Remarks:		**9. Equip./Component No.:**
For Release.		N/A
		10. System/Bldg./Facility: 340 Complex
11. Receiver Remarks: **11A. Design Baseline Document?** [ ] Yes [X] No		**12. Major Assm. Dwg. No.:** N/A
		13. Permit/Permit Application No.: N/A
		14. Required Response Date: August 20, 1996

15. DATA TRANSMITTED

(A) Item No.	(B) Document/Drawing No.	(C) Sheet No.	(D) Rev. No.	(E) Title or Description of Data Transmitted	(F) Approval Designator	(G) Reason for Transmittal	(H) Originator Disposition	(I) Receiver Disposition
1	WHC-SD-LEF-SSP-001	N/A	0	340 Waste Handling Facility Deactivation Plan	N/A	1&2	1	

16. KEY

Approval Designator (F)	Reason for Transmittal (G)	Disposition (H) & (I)
E, S, Q, D or N/A (see WHC-CM-3-5, Sec.12.7)	1. Approval 4. Review 2. Release 5. Post-Review 3. Information 6. Dist. (Receipt Acknow. Required)	1. Approved 4. Reviewed no/comment 2. Approved w/comment 5. Reviewed w/comment 3. Disapproved w/comment 6. Receipt acknowledged

17. SIGNATURE/DISTRIBUTION
(See Approval Designator for required signatures)

(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN	(G) Reason	(H) Disp.	(J) Name	(K) Signature	(L) Date	(M) MSIN
1	1	Design Authority L.D. Berneski			L6-04	3		L.A. Garner			R2-36
		Design Agent				3		T.W. Halverson			B2-13
1	1	Cog.Eng. R.T. Stordeur		9/16/96	L6-05	3		A.J. DiLiberto			H6-10
1	1	Cog. Mgr. D.L. Halgren			L6-04	3		L.W. Roberts			L6-04
		QA				3		W.J. Apley			P7-75
		Safety				3		O.H. Bradt			L6-04
3		~~Env.~~ Central Files			A3-88	3		K.L. Leggett			L6-40

18.	19.	20.	21. DOE APPROVAL (if required) Ctrl. No.
R.T. Stordeur Signature of EDT Originator — Date 9/16/96	Authorized Representative for Receiving Organization — Date	D.L. Halgren Design Authority/ Cognizant Manager — Date 8/20/96	[ ] Approved [ ] Approved w/comments [ ] Disapproved w/comments

BD-7400-172-2 (05/96) GEF097

RECEIVED
SEP 03 1996
W.J. APLEY

BD-7400-172-1

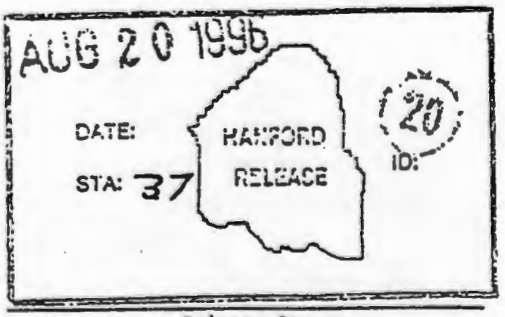
340 Waste Handling Facility Deactivation Plan

R.T. Stordeur, L.D. Berneski
Westinghouse Hanford Company, Richland, WA 99352
U.S. Department of Energy Contract DE-AC06-87RL10930

EDT: 618201 UC: 2050
Org Code: 86730 Charge Code: A234C
B&R Code: EW3130020 Total Pages: 48

Key Words: 340 Facility, radioactive liquid waste system, RLWS, retention process sewer, RPS, 307 basins, waste storage tanks, 300 Area, deactivation, shut-down, decommissioning, transition.

Abstract: This document provides an overview of both the present status of the 340 Complex (within Hanford's 300 Area), and of tasks associated with the deactivation of those segments dealing with radioactive, mixed liquid waste receipt, storage, and shipping. The plan also outlines actions needed to de-couple portions of the 340 Complex that will remain in service, including a replacement facility for required functions now fulfilled by systems proposed for deactivation. Task descriptions are presented, along with a detailed schedule for fiscal years 1997 through 2001, a companion preliminary budget (focused more on the near term), and a list of key assumptions.



Release Stamp

Francis Bishop 8-20-96
Release Approval Date

Approved for Public Release

340 Waste Handling Facility
Deactivation Plan

WHC-SD-LEF-SSP-001
Rev. 0

L.D. Berneski, R.T: Stordeur

300 Area Liquid Effluent Process Engineering

August 1996

EXECUTIVE SUMMARY

The 340 Complex provides radioactive, mixed liquid waste storage and transfer services for several 300 Area facilities. The Department of Energy - Richland Operations Office requested (via performance based fee criteria # 96-808) a plan for the deactivation of those portions of the 340 Complex dealing with the receipt, storage, and shipping of radioactive liquid waste system (RLWS) solutions. This portion of the 340 Complex includes: the 2 vault tanks; the 340-A building (6 above ground storage tanks); the east side of the 340-B building (used for waste load-out to rail tanker); and the RLWS components, upstream from 340 to the laboratory diverter stations. This plan also addresses portions of the 340 Complex that the shutdown indirectly affects yet still continue to have a mission, i.e., the retention process sewer (RPS), the 307 basins, and the west side of 340-B (used for solid waste staging and material storage).

The time period of primary interest for this plan is from the present until the respective facility systems are either de-coupled for continued operation, or terminated and then stabilized and/or cleaned-out. Due to its early stage in the shutdown process, the level of detail in this plan is of the rough order-of-magnitude type. The planning basis focuses on a tentative end-of-FY'98 final date for any new waste receipts at the vault. There are indications from Transition Projects that their deactivation of the 324 and 327 laboratories would be best served if 340 remained active, possibly until 2001.

The objective of deactivation is to reduce physical risks and hazards by placing the facility in a passive/stable state such that the costs of both near and long-term surveillance and monitoring are minimized. This should be economical and consistent with the Site-wide mission goals, using existing technology and common sense engineering approaches. These actions should minimize the generation of waste/emissions, and limit worker exposure. The purpose of this plan is to provide both an overview of this process, as well as specific recommendations (along with schedule and budget estimates) for near term activities.

ABBREVIATIONS/ACRONYMS LIST

AGS	above ground storage
ALARA	as low as reasonably achievable
ANSI	American National Standards Institute
CFR	code of federal regulations
CX	categorical exclusion (NEPA)
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
EA	environmental assessment (NEPA)
Ecology	State of Washington Department of Ecology
EPA	U.S. Environmental Protection Agency
EPC	end-point criteria
ERDA	U. S. Energy Research and Development Agency
FDC	functional design criteria
HEPA	high efficiency particulate air [filter]
HLAN	Hanford local area [computer] network
HPS	Hanford plant standard
HPT	health physics technician
HVAC	heating, ventilating, and air conditioning
ISB	interim safety basis
LEF	Liquid Effluent Facilities
LLW	low level waste
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NOC	notice of construction
NOI	notice of intent
Pacific Northwest	Pacific Northwest National Laboratories (PNNL not accepted)
PHMC	project Hanford management contractor
PM	preventive maintenance
PS	process sewer
PSE	preliminary safety evaluation
QA	quality assurance
RCRA	Resource Conservation and Recovery Act
RL	[DOE-] Richland Field Office
RLWS	radioactive liquid waste system
RPS	retention process sewer
SARP	safety analysis report for packaging
SSC	systems, structures, and components
TCO	terminal clean-out
TEDF	Treated Effluent Disposal Facility
TPA	Hanford Federal Facility Agreement and Consent Order
TSD	treatment, storage, and disposal (RCRA)
VE	value engineering
WAC	Washington Administrative Code (or waste acceptance criteria)
WDOH	Washington Department of Health
WHC	Westinghouse Hanford Company

1.0 OVERVIEW

1.1 Introduction

The existing 340 Complex serves several 300 Area facilities which generate radioactively contaminated liquid wastes, some of which are also contaminated with hazardous materials. Wastes can be transferred to the 340 Facility storage tanks by one of four routes: 1) direct from the radioactive liquid waste system (RLWS), the primary path; 2) via tanker trucks or drums; 3) via transfers from the 307 basins; or, 4) through diversions from the retention process sewer (RPS). The RLWS portion of the facility is classified as a nonreactor category III nuclear facility. The RPS/307 basins are nonnuclear. Section 2.1 provides more detail on these systems.

The need for this plan derived from a decision to abandon Project W-302, which was intended to bring the 340 waste tank system into compliance with RCRA tank containment requirements, and to improve system maintainability. Due to budget limitations and changing missions, a value engineering (VE) study and subsequent evaluations led to the decision that Pacific Northwest National Laboratory (Pacific Northwest) will modify the 325 Laboratory to provide for waste storage and a truck-based load-out/shipment system. The new 325 capability, plus the gradual phase-out of other facilities serviced, will allow the termination of 340 radioactive liquid waste receipt operations in the near future (see 1.3 assumptions).

The process of deactivating[1] the 340 Facility should begin shortly, and will continue until transfer to either the transition projects organization or the environmental restoration contractor. This plan provides a list of guiding assumptions, a portrait of current operations, and a preliminary blueprint for deactivation. The purpose and basic schedule for deactivation are presented in the balance of section 1.0.

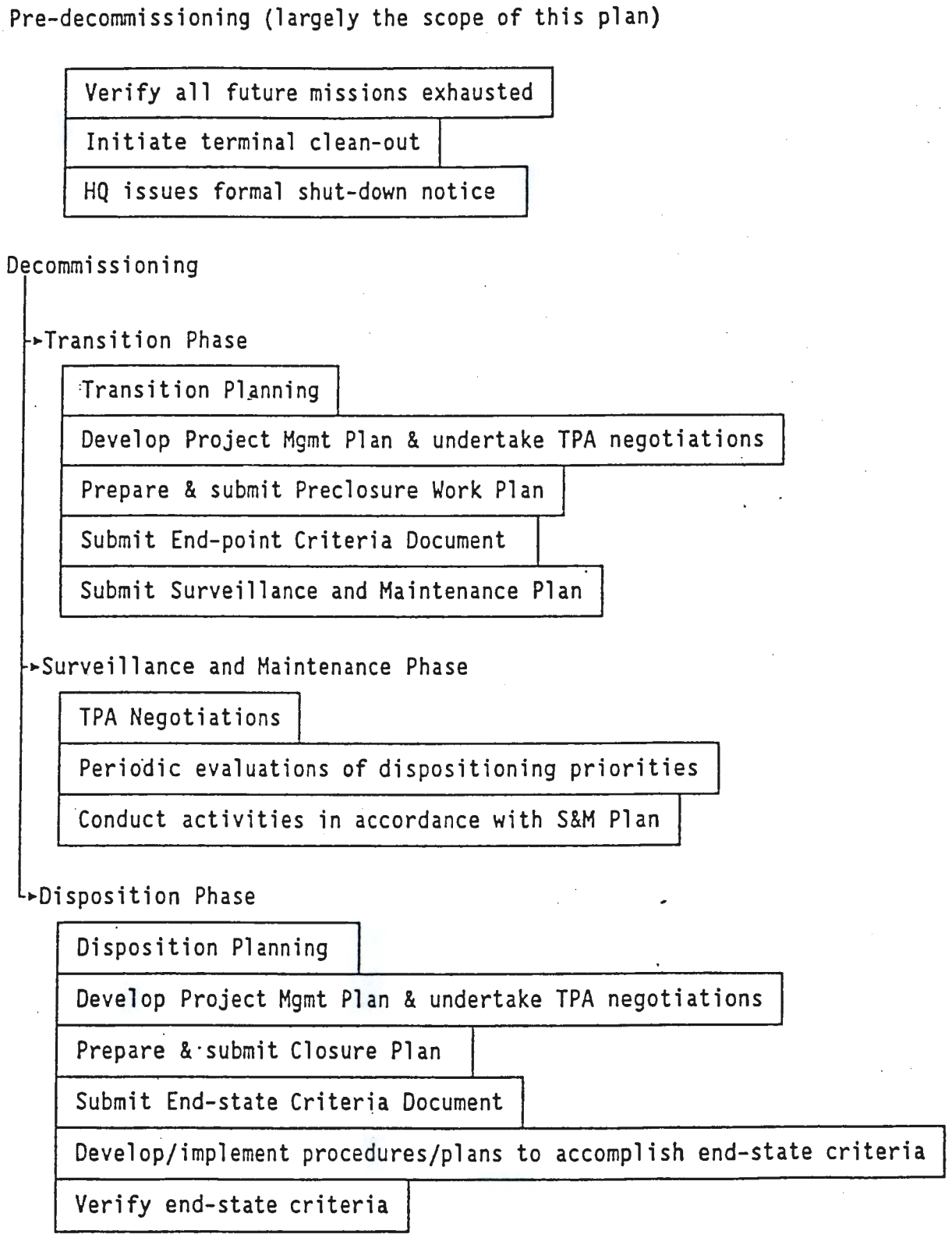
1.2 Scope/objectives

This plan addresses the deactivation of those portions of the 340 Complex dealing with the receipt, storage, and shipping of RLWS solutions -- in particular: the vault; the 340-A building; the east side of the 340-B building; and the RLWS components upstream to the diverter stations. Other portions of the 340 Complex indirectly affected by the shutdown (e.g., RPS & 307 basins), are also addressed. The time period for this plan is from the present (i.e., at plan issuance) until the respective facility systems are either de-coupled for continued operation, or terminated and then stabilized

---

[1] "Deactivation", has been defined (WHC-EP-0895, draft B Plant Transition PMP) as: "Activities associated with removing facility systems and/or areas from operational service with the intent of being ready for facility transition to either convert the facility for another use or move to permanent shutdown. These activities could include the removal of fuel, draining and/or de-energizing of systems, removal of accessible stored radioactive and hazardous materials, and other actions to place the facility systems and/or areas in a safe and stable condition so that a surveillance and maintenance program will able to most cost effectively prevent any unacceptable risk to the public or the environment until ultimate disposition of the facility." The same document defines "shutdown decision" as "A formal DOE-HQ documented determination that a facility is surplus [has no identified programmatic use]". Other sources (WHC-CM-6-1, EP-2.5) consider deactivation to follow a surplus declaration (post-shutdown), yet describe similar objectives and activities. The EM-60 "Facility Deactivation End Points Handbook" (DOE 1995b) indicates that "final shutdown" can occur during (after initial and before final stages of) deactivation.

Figure 1-1 Generic Decommissioning Process
(compiled from Ecology, EPA, DOE, 1995)



i) PHMC/Pacific Northwest will concur on any volume increases or other source term changes in RLWS or RPS.

j) Existing major pieces of equipment will deliver adequate performance during the interim period, afforded longevity via routine preventive maintenance.

k) Cost reductions (e.g., staff or utilities) that relate to the termination of operations will be off-set during the deactivation period by activities such as isolation, clean-out, and maintenance. This, plus the fact that the RPS/307 side continues to function, means no significant decreases should be anticipated nor factored into the annual O&M cost between the near-term and interim period for budget projections.

l) Any new equipment and/or facilities specified shall be designed and constructed to facilitate periodic surveillance, interim decontamination, and/or maintenance as needed.

m) No decontamination and decommissioning (D&D) nor environmental restoration of existing facilities or piping is warranted under the scope of this plan. Any waste piping systems that are removed from service shall be isolated in an environmentally acceptable manner. There are no significant operational surplus/excess materials for transfer or disposal. Questions associated with a 90-day clock dictating post shutdown TCO scheduling will be resolved.

n) The PHMC will proceed under existing constraints, and at least initially, will pursue recommendations put forth in this plan.

o) The present general funding outlook will not change.

p) Future changes in DOE orders will not significantly alter the means for carrying out this plan.

q) To minimize worker disruption and accommodate the parallel continuation of operations at the RPS/307 basins, existing 340 Facility operations and supporting personnel will cover the basic deactivation work in addition to activities required for normal operation. Matrixed support from the Transition Projects organization will be sought as appropriate.

2.0 CURRENT CONDITIONS

This section describes present conditions, such as the current 340 Facility status related to physical plant, configuration control, management organization, and safety basis. Section 3.0 subsequently addresses proposed operational or physical modifications related to the shutdown at 340.

2.1 Facility Description

The following provides a brief description of the buildings within the 340 Complex (see Figure 2-1), and the associated liquid waste distribution piping systems. The 340 Complex includes the 340, 340-A, and 340-B buildings.

The 340 Building was originally constructed in the early 1950's and houses the sampling hood, decontamination area, equipment room, control room; closely coupled to a below grade concrete vault. The vault houses two - 57 kiloliter (15,000 gallon) stainless steel tanks, and has removable concrete cover blocks. In the early 1960's an addition was added to the 340 Building which included a garage and load-out facility (WHC 1992b). The total area of the original 340, the annex, and vault, is 4530 s.f.[2].

The 340-A Building (1350 s.f.)[2] sits partially below grade and houses six 30 kiloliter (8,000 gal.) stainless steel tanks within a concrete berm. The tanks are currently available as backup storage for the vault tanks.

The 340-B Building (3200 s.f.)[2] is termed the rail load-out facility. The building was initially constructed to accommodate two 76 kiloliter (20,000 gal.) rail tank cars. Currently, only the east side can receive rail cars. The tracks on the west side have been removed and this area is only used for storage. The two sides are now divided by a concrete shielding wall; which projects along the south end of the east side, extending protection to the 340 control room.

The RLWS is composed of encased stainless steel piping connecting the 340 vault tanks to the waste generators. It is used to collect liquid mixed wastes. The primary facilities generating liquid waste discharged to the RLWS system are the 324, 325, 326, 327, and 329 buildings. Other generator facilities transfer containerized wastes via these connected facilities or directly to the 340 Complex. The generators are responsible for ensuring that strict waste acceptance requirements are met.

The liquid mixed waste is collected at the 340 Complex and periodically transferred to a rail tank car in 340-B East, for transport to double shell tanks (via the 204-AR Waste Unloading Facility) in the 200 Area.

The 340 Building is provided with a ventilation system servicing all of the rooms except the control and mechanical equipment rooms. Air flows from uncontaminated areas toward areas with a potential for contamination. The

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[2] These square footage numbers were obtained from "Past Practices Technical Characterization Study -- 300 Area -- Hanford Site", WHC-MR-0388, (WHC 1992b). [Note that Soft Reporting/Hanford PeopleCore/ WHC Building and Structure List, gives different areas: 340 - 4470 s.f., 340-A - 1370, and 340-B - 1200. Presented the former #s as they agree better proportionately with the aerial footprints (Fig 2-1).]

potentially contaminated areas are filtered through a single stage of HEPA filters. Exhaust from this area combines with exhaust from the change-room, truck lock, and operator office and is filtered through two stages of HEPA filters prior to discharge to the environment.

The 340 Vault and tanks are serviced by a common ventilation. Supply air is electrically heated in the winter to provide freeze protection. The exhaust discharges through a stage of dust stop filters, two-stage HEPA filters, and two exhaust fans located just east of the vault. A charcoal absorber stage is also in line. During normal use the fans are alternated with one in standby. A control damper on the vault line is used to maintain a higher vacuum in the tanks than in the vault. The off-gas line from the tanks contains a demister ahead of the tie-in to the filter system.

The RPS system serves as a collection system for non-hazardous process wastewater which is potentially radioactively contaminated. The RPS system includes underground piping, the 307 Basins, and four diverter stations. The 307 Basins were constructed during the same time frame as the RLWS and 340 Complex. The RPS diverters are capable of routing the wastes to either the RPS or the RLWS, and are located in the basements of the 324, 325, 326, and 327 laboratories. The 326 diverter station monitors the combined flow from the 326 and 329 Buildings. These diverters were upgraded in 1996 with more sensitive beta/gamma monitors (WHC 1995a).

The 307 Basins currently consist of four 190 kiloliter (50,000 gallon) basins with associated valves, pumps, and pump controls. However, only half (or ~25,000 gallons each) is useful capacity due to the location of the inlet pipes. Project W-345 (WHC 1993a) re-lined the basins and provided the system with a batch-release capability. Wastewater determined to be unacceptable for the 300 Area TEDF (WHC 1994h) can be transferred to the 340 Facility vault storage tanks.

2.2 Organization and Control

2.2.1 Management Organization

The 340 Complex is now managed by the Westinghouse Hanford Company for DOE. Facilities generating waste received at 340 are operated by WHC or the Pacific Northwest National Laboratory. Such an arrangement requires constant communication and cooperation between the waste generator and waste manager (WHC 1993b). The RLWS Disposal Approval Request system has been established to support this process.

WHC-IP-1000, *300 Area Liquid Effluent Facilities Administration* (WHC 1994d), outlines policy for conduct of operations, general administration, engineering and work control.

340 is managed at the director level under the Liquid Effluent Services organization. The 300 Area Liquid Effluent Facilities (LEF) manager oversees operations and maintenance at both 340 Complex and the TEDF. Immediate control for the 340 Facility is under the Facility Operations unit. LEF groups providing support to both facilities include the 300 Area LEF Maintenance/Work Control and the 300 Area LEF Engineering units. The training

Records Management Manual, Section 12.0, "Document Control," and Section 12.5, "Working Level Procedure Control," and WHC-CM-4-2, Section 6.0, "Document Control." WHC-IP-1000 (WHC 1994d), Section 3.1, defines details of procedure use, review, changes, etc. for 300 Area LEF. A facility regulatory file has been established in accordance with WHC-CM-7-5 (WHC 1996f) section 5.7.

These policies apply to all facilities and organizations that require the use of procedures for guidance and control of day-to-day activities. The 340 Facility controls, maintains, and modifies its procedures to achieve the highest standards of safety, efficiency, and excellence in conduct of operations. The procedures are kept up-to-date and readily available for the users, through a careful review and approval process. In addition to procedures, operator aids and timely orders are employed to further assist and inform operating staff.

Operating logs are kept which document facility events and personnel actions. Daily surveillance data sheets are used for specific instruments or devices. Daily Operating Reports are electronically distributed. A required reading program is in place. Maintenance and calibration records are retained by the work control group. Work control packages are periodically archived, unless needed to support routine/recurrent activities. Records of solid waste designations and shipments are retained as required.

The Facility Evaluation Board conducts appraisals of WHC facilities to verify compliance with DOE Order 5482.1B, *Environment, Safety and Health Appraisal Program*. Examples of activities covered by this organization include readiness reviews, design reviews, audits and appraisals, facility inspections, and operational surveillance and self assessments. The facility and operations are routinely assessed to verify compliance with the intent of meeting applicable codes, standards, and regulations.

WHC-IP-1000 (WHC 1994d) section 1.8 establishes an internal assessment program to promote continuous improvement of operations. These assessments are either conducted by qualified in-house personnel or are requested from support organizations. Findings are prioritized and corrective actions tracked. Information is periodically trended to identify any specific areas that may require additional management attention.

The 340 Complex, via the RLWS, typically collects from 11 to 38 kiloliters (3,000 to 10,000 gal.) every 90 days. Additional volume could be generated as a result of diversions from the RPS. Sampling of this waste is periodic and is consistently performed concurrent with rail car shipments. Data on individual RLWS transfers is maintained by both Pacific Northwest and 300 Area LEF. This data consistently contains volume, chloride, gross radionuclide, and pH information.

2.3 Environmental Compliance

The 340 Facility is managed as a less than 90 day waste accumulation area. Waste shipments are made on a time rather than a volume basis, given the available storage and rail tanker capacities, along with normal RLWS waste accumulation rates.

Detailed information regarding the 340-NT-EX stack and compliance with applicable regulations (EPA 1989, EPA 1991) are provided in WHC-EP-0544 (WHC 1995c) and the 340 FEMP (WHC 1996c).

340 Building Stack

The 340 Building Stack (340-DECON) exhaust system provides air ventilation to the truck lock, operator office, change-rooms, decontamination, and sampling hood.

Drawing H-3-52425 (WHC 1990a) provides an airflow diagram of the system. The 340 Building has a ventilation supply system, an evaporative cooling system, an electric heating system, and an exhaust system servicing all the rooms except the control and mechanical equipment rooms. The exhaust system consists of two-stage HEPA filters, an exhaust fan, and a stack that is located above the change rooms. Airflow from the decontamination area hood, sink, and sump pass through a stage of HEPA equivalent filters before the two-stage HEPA filters.

Stack effluent flow rate measurements are performed annually and the average flow rate is 200 m^3/min (7,100 ft^3/min). Stack effluent is sampled using a calibrated isokinetic sampling system. The record sampler contains filter media to sample and measure gross alpha and gross beta. Stack sampling occurs quarterly. The sample medium consists of Versapor 3000TM filter paper for particulates. The sample medium is analyzed by Pacific Northwest.

340 B East Ventilation Stack

The 340-B East Ventilation Stack (340-B-BLDG) exhaust system provides air ventilation to the 340-B East Building. This ventilation system is required to be operated when containment is being broken to connect a railcar to facility piping and during waste transfers. The facility is not equipped with a supply air system.

Drawing H-3-34404 (WHC 1996d) provides an airflow diagram of the system. The ventilation system consists of a pre-filter, HEPA filter, exhaust fan, and stack located in the west side of the building.

Stack effluent flow rate measurements are performed annually and the average flow rate is 50 m^3/min (1,800 ft^3/min). The stack effluent is sampled using a calibrated isokinetic sampling system, which is operated when the powered exhaust system is operational. The sample medium consists of Versapor 3000TM filter paper for particulates and are analyzed by Pacific Northwest for gross alpha and gross beta.

2.3.2 Liquid discharges

Several sources discharge liquid from the 340 Complex. Most of these waste streams contain no radioactive or hazardous materials (other than household materials such as off-the-shelf cleaners used for cleaning bathrooms) and are therefore not monitored. These non-monitored effluent streams are:

- Sanitary sewage from the 340 Complex, discharges via the 300 area system

other systems, structures, and components fall below requirements for the Safety Class category. The RPS/307 basin system is non-nuclear (Berneski 1995).

At least one upset condition in the past caused a serious release to the environment. This incident was remediated "to the extent possible" and corrective actions were taken to prevent the reoccurrence of similar incidents. The incident involved a contaminated soil column discovered on October 31, 1977, beneath a tee in the radioactive liquid waste line near the 340 Building (Hall 1978). An estimated 90 percent of the contamination was removed during an excavation that extended down to 17 ft (6 m) below ground level.

Because of this incident, all of the RLWS piping is now required to be stainless steel pipe encased in reinforced epoxy pipe. The flow of waste through the RLWS piping is controlled by valves at critical points between the generating facilities and the 340 Building. These valves are located in covered concrete valve boxes.

No excavation work requiring worker proximity to radionuclide contamination is expected during the early decommissioning phases at 340. However, added worker exposure is probable during the removal of residual waste inventories from the various storage tanks. All controls warranted to afford protection from potential radionuclide releases will be implemented. Shielding of the tanks and tank cars reduce worker exposure to ALARA levels.

2.4.4 Fire Protection

The fire detection and protection systems have been recently evaluated by a Fire Hazards Analysis (Roberts, 1995). Fire protection meets the "Improved Risk" criteria defined in and required by DOE Orders 6430.1A and 5480.7A and RLID 5480.7 (DOE 1989, DOE 1993), as well as the WHC fire protection manual (WHC, 1992a), and any applicable National Fire Protection Association codes. The fire alarm system is connected to the 300 Area fire alarm system. Fire extinguishers are installed in and around the facility.

Fire sprinklers will be installed in 340-B west to permit relaxation of storage capacity restrictions, allowing for greater beneficial use of this facility. After termination of routine mixed liquid waste activities at 340, 340-B west can continue to handle solids generated from on-going RPS/307 operations, as well as terminal clean-out activities within the balance of the 340 complex. The separation between 340-B east and west (which includes a substantial shielding wall) should afford the possibility for a clean transition of the former load-out facility to ER.

2.4.5 Industrial Safety

Existing work procedures will continue to be implemented to ensure the safety of operating, maintenance, and any construction personnel in the area. Safety features (such as shower/eye wash stations, exit lighting, intercom phones) will be maintained until no longer substantially beneficial.

3.0 DEACTIVATION STRATEGY

This section constitutes the core of the plan, covering the bulk of the pre-decommissioning steps outlined in section 1.2. A controlled notebook will be maintained as the facility shutdown logbook, to record activities as work is performed (WHC 1990b).

3.1 Near Term Actions

"Near term" is defined as the time period from the issuance of this plan until the routine mixed liquid waste receipts are discontinued. While this period of time is used to begin work on many of the tasks outlined in later sections, Section 3.1 only addresses changes of an operational nature.

3.1.1 SSC Related

There are several systems, structures, and components (SSC) essential to 340 operations. The SSC associated with those portions of the 340 Complex to be deactivated, must be maintained to ensure the facility is able to support the laboratories until the new load-out station is constructed. Systems with redundant capability or atypical access constraints could continue to be operated while being formally placed in a "run-to-fail mode", allowing focus on essential areas and reducing the overall maintenance cost for the facility.

The 340 facility currently has over 100 different preventive maintenance (PM) procedures. Many of these are on an annual or more frequent recall basis. Presented below are the systems considered essential and requiring preventive maintenance. PM on all other systems will be systematically evaluated for reduction or deletion. After Pacific Northwest provides replacement waste storage capabilities, the essential list will again be reassessed.

Alarm System and Emergency Lighting

The majority of the maintenance work for these systems consists of functional checks and PM, and as a safety issue will be continued.

RLWS

The following are the major, critical components of the radioactive liquid waste system. Figure 3-1 depicts the relative orientation of many of these.

- tanks TK-1, TK-2
- at least three of the six AGS tanks
- RLWS valves RL-: 1-5, 15-25
- pumps TP-1, TP-2, TP-5
- agitators AG-1, AG-2
- oil pump OP-1
- valve box leak detectors
- tank level instrumentation

PMs associated with the RLWS equipment include pump/valve interlock checks, level measurement instrumentation calibration, and leak detector functional checks. Maintenance will continue on these components/systems.

A - REMOTELY OPERATED - VERIFIED AT PANEL
M - MANUALLY OPERATED - VISUALLY VERIFIED

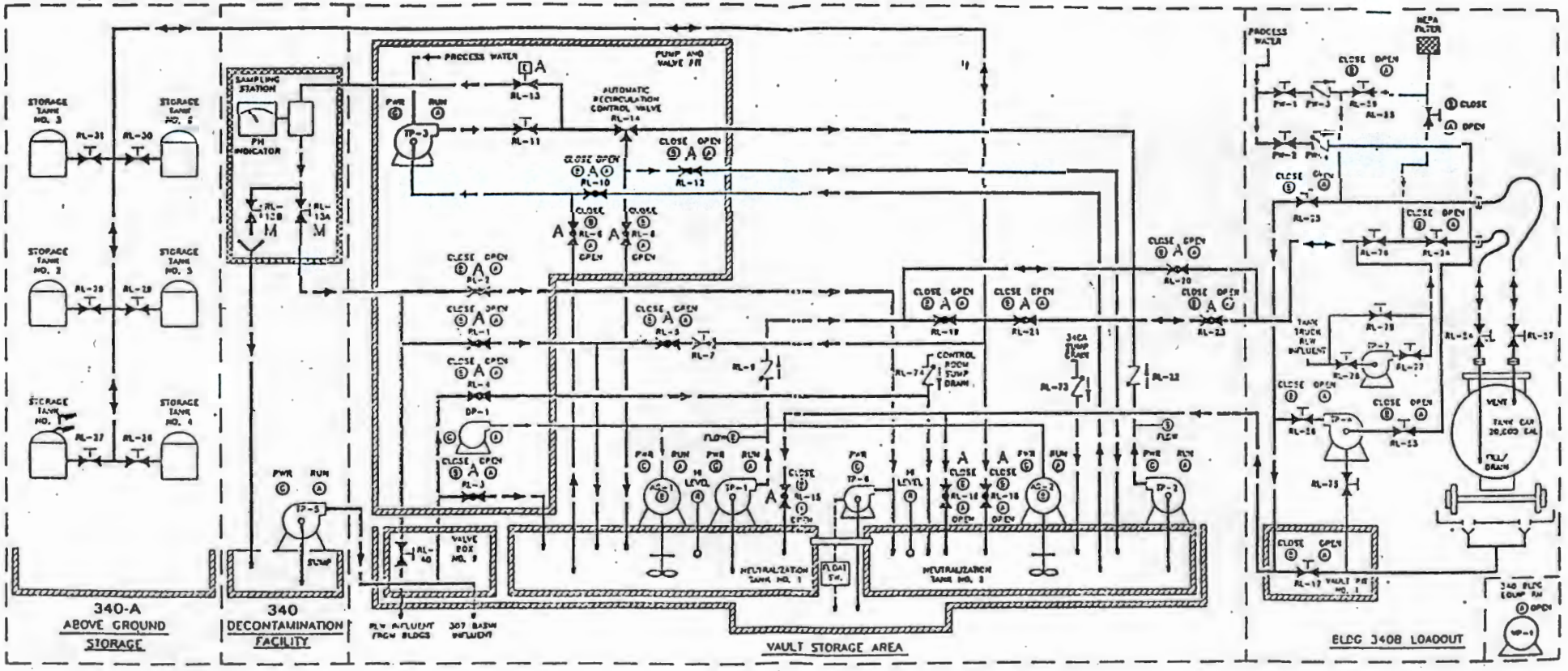

Figure 3-1 340 Facility Process Flow Schematic

operations that the facility can control. The process water system is fairly new and not located inside any radiologically controlled areas. Repairing equipment outside radiological areas in not normally a problem.

Of course, there is some risk to the "operate to fail" mode. The facility has experienced waste receipt without prior notification. Any waste in large quantities, such as a RPS divert, could require the facility to transfer waste to backup storage with little notification. Another risk is that while preventive maintenance cost may be reduced, there is the potential for repair cost to increase.

3.1.2 Management Related

Configuration management will be performed in accordance with the SSC's anticipated disposition category. Essential SSC remaining in operation will have their drawings, vendor information, and design bases maintained during this period. Documents required to support the design or use of those SSCs which are removed or disposed of, will be voided. Any usable surplus SSCs or SSCs transitioned for later disposition will include existing documentation in the turnover package. Documentation will be stored for any remaining SSCs whose disposition has not yet been determined.

The management of records will follow applicable sections in WHC-CM-3-5, *Document Control and Record Management Manual* (or its relevant PHMC successor) to ensure the availability of records needed to support the transition, surveillance and maintenance, and/or disposition phases of 340 decommissioning.

Maintenance work implementation/tracking will be conducted in a manner which retains all the essential elements expressed by WHC 1995d and 1996e, and any changes from the present JCS will be documented in revisions to section 4 of WHC-IP-1000 (WHC 1994d).

Self assessments will be performed in several areas to demonstrate continued policy compliance and to alert management to any deteriorating conditions.

The initial proposed changes will entail NEPA coverage, as will the eventual D&D of 340. Pacific Northwest has been directed by RL to prepare a categorical exclusion (CX), to cover many of the changes related to the transfer of storage and transport duties from 340 to a Pacific Northwest facility (Pacific Northwest 1996c). The scope of this CX does not currently include all of the activities proposed later in this chapter, and it may yet be determined that an Environmental Assessment (EA) would more readily accommodate NEPA coverage for the complete integrated package; a possibility included in the 4.0 budget and schedule.

3.2 Facility Stabilization Actions

The preferred approach to stabilization is removal of the hazardous and/or radioactive inventory. If not possible, then the isolation and containment of contamination, followed by proper posting and documentation, will suffice until final disposition. The first sub-section identifies known areas of

levels near 1000 dpm beta and less than 20 dpm alpha. The samples lines from the hood are more contaminated. Dose rates from the lines range from 180 mrem/hr to 120 mrem/hr.

The 340 Vault Tanks Radioactive Inventory

The vault tank inventory with respect to solid accumulation is less certain than the 340-A tanks. Because the tanks are agitated, there is less of a concern than the 340-A tanks with solids buildup. The radioactive concentration of the waste has declined in recent years. Tank samples from 1989-1993 averaged four times higher in beta and 3 times higher in alpha than the more recent period between 1994-1996. Dose rates around the tanks have also declined. In November 1990, dose rates under the tank exceeded 5000 mrem/hr and the vault sump area dose rate was 2000 mrem/hr. In 1995, the highest dose rate under the tank was 1500 mrem/hr and the sump area was 500 mrem/hr.

Piping/Valve Boxes

There are 15 valve boxes associated with the RLWS. Dose rates in the valve boxes vary. A survey in 1995 showed dose rate from less than detectable to 80 mrem/hr. There is also removable contamination in some valve boxes. Most valve boxes indicate less than detectable. Valve box 8 had levels up to 55,000 dpm beta.

Hazardous Material Inventory

The issue of hazardous constituents must be addressed in addition to the radioactive inventory. There is a potential to accumulate heavy metals in the bottom of tanks and in the gravity feed lines. Removal of the solids/precipitants has been successfully accomplished in the 340-A tanks in the past. Experience from the L-070 project revealed solids can be flushed from lines. Therefore only the vault/tanks within the RLWS may remain as areas of significant concern with regard to contaminated sediment/scale removal.

The facility clean-up must also address the issue of listed waste. Some streams entering the RLWS have been designated as F listed wastes. This type of hazardous designation is independent of quantity or concentration, and is more difficult to address than characteristic wastes. All RLWS components must be considered listed waste due to the nature of past Pacific Northwest disposals (Pacific Northwest 1996c). After decon/cleanup the tanks, piping and other components could be evaluated for other beneficial uses under provisions of WAC 173-303 (Ecology 1995).

3.2.2 Inventory Reduction Actions

Preliminary evaluations of inventory reduction tasks have identified actions that will help minimize long term S&M activities. Details of these actions are being developed and will be refined as additional information becomes available. Other options that may arise will be evaluated against these actions.

It is appropriate to flush out as much of the facility inventory as possible while the capability to remove the waste is readily available. The 340-A

the 340 RLWS tanks; and once the RLWS is shutdown, this path will be eliminated.

There are now two locations in the RPS system that allow waste to be routed away from the process sewer. The first is at the generator building. If radioactivity is detected at the building that RPS flow is diverted to the RLWS tanks. The remaining waste flows from the other buildings are not affected. This feature minimizes the volume of waste to be managed as RLW. The second location for waste diversion is the 307 basins. These basins are batch sampled for radioactivity. If radioactivity is detected, the contents of the basin may be pumped directly into the RLWS tanks.

The combined building flowrate into the 307 basins averages 50-60 gallons per minute. Each basin can effectively hold 25,000 gallons, thereby taking approximately 8 hours to fill. It then takes 1 hour to dry a sample and 1.5 hours to perform a sample count. The discharge pumps run at ~150 gpm, therefore, it takes ~3 hours for transfer. By this time, the second basin is 70% full. It is obvious that fairly quick response actions must be taken in the event elevated radioactive levels are detected, or there may be multiple off-specification basins requiring special handling. This constraint is made more restrictive under the changes proposed in Section 3.3.1.

The 324 and 327 facilities are near the completion of their operating mission. They are expected to transition to the deactivation stage in October, 1996. Miscellaneous streams from cooling systems and the potential fire system activation requires continued RPS availability. The 324/327 facilities may eventually be de-coupled once cleaned to the point where they no longer pose a significant risk. The 329 and 326 facilities, while no longer requiring a RLWS line, are still hooked into the RPS diverter systems, and are expected to remain on the RPS diverter system. Therefore the 324, 325, 327, 326 and 329 buildings will be initially included in plans for the new 307 basin system that will capture any post-RLWS-shutdown diversions.

3.3.1 Changes to Diverters and Associated Operational Controls

The future operation of the basins will require cooperation between the 307 Basin operators and the RPS generator personnel. One operational plan calls for the dedication of one basin for containing the waste stream generated during building alarm situations. In a low cost version of this mode, an alarm from a building monitoring station, instead of resulting in a divert to the RLWS, uses existing valving to direct the RPS flow at 307 to this dedicated basin[4]. A large drawback is that by diverting at the basins, the total RPS flow is now involved, not just that of the offending facility. The available capacity of a single basin will allow only ~8 hours of response time. To retain sufficient RPS capability to support the non-offending facilities, the facility in alarm will be expected to curtail RPS flow. In the past, this has been accomplished by valving out the building water supply,

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[4] It has also been suggested that a new, high quality valve be installed on the RPS line, just upstream of the tie-in point for the batch-release composite sample pump, to direct flow to basin #4. A dedicated programmable logic controller is also advised, and dedicated phone lines between 307 and the detectors would further improve reliability. Once this change is studied in more detail, it could prove to be more than just a simple re-programming of the existing alarm/valving system. In anticipation of this end, the number in Table 4-1 for RPS re-routing conservatively reflects the higher cost of such a design.

3.3.2 Basin Cover

The retention basins have experienced solids accumulation. Past sampling results of the solids have also indicated low levels of radioactivity. A new aspect related to de-coupling is that one of the basins will now be called upon to receive RPS diversions, and that basin could contain potentially elevated levels of radiological contamination. The source of most of the solids is probably wind-blown sand in the open basins, although the recent connection of some 340 area storm drain lines could contribute to this loading. The addition of a cover has been evaluated as one way to minimize surface dust and debris from entering the basins.

One cover option, a basic pre-engineered steel roof placed just over the outer perimeter of the 4 basins (45' x 106'), was estimated to cost $277,000. This would not involve active ventilation, insulation, heating, nor any built-in lighting. Access would be provided by hatches (2 per basin, 3' x 4') for potential cleaning, inspection, repairs, sampling, etc. However, this still represents a significant disadvantage over current, relatively unrestricted basin access, even hindering simple visual surveillance.

Another concept considered consisted of a pre-engineered (Butler-type) steel building (walls 10' high, dimensions 55' x 116') around all 4 basins with room for a perimeter walkway; estimated at $390,000. This would include standard incandescent lighting and a set of double doors at each end, but again, no active ventilation, heating, nor insulation. Access is improved and the basin pumps and personnel are afforded an added degree of protection from weather extremes. Non-rigid, fabric structures were briefly contemplated but dismissed as insubstantial.

To help place these costs in perspective, the typical cost for cleaning out all four basins (including sampling and analysis and sludge disposal) is only around $9400. It would be difficult to justify the expense of either cover from the standpoint of sediment control, especially since the need for periodic basin cleaning would still remain to some degree.

As far as contamination control, the safety evaluation for the RPS system (Berneski 1995) took no credit for upstream diversion, and thus effectively addressed conditions under the de-coupling proposal. That analysis determined the RPS was below hazard category 3 and non-nuclear. Other benefits of a cover, such as worker and equipment protection from weather extremes (more so for the building version) and the exclusion of wildlife, are not deemed sufficient to offset construction costs.

Recommendation: Basin covers of any type cannot be justified.

3.3.3 Truck Load-out Station

The planned deactivation of 340 vault tanks and 340-B east will require an alternate method for removal of contaminated water from the basins. It is expected that RL will announce a plan to end railroad operation under a phased withdrawal. A loss of rail service would impact future shipments from the 340/307 Complex. A truck load-out station is the anticipated solution.

Full-spectrum treatment is not needed nor especially desired. The selective removal of radionuclides is the fundamental need. The 300 Area TEDF is equipped to deal with residual chemical contaminants; and total contaminant removal could generate excessive secondary solid wastes.

Radionuclide-containing waste waters generated in the 300 area may contain mixed fission products, as well as alpha emitting isotopes of plutonium, americium, and uranium. The underlying matrix in which the radionuclides are contained will primarily be sanitary water, with low levels of non-radioactive contaminants, dependant on the research being conducted at PNNL. Non-radioactive contaminants may include dissolved solids, suspended solids, and traces of organics and heavy metals. Treated effluent could be returned to the RPS flow upstream of the in-line basin sampler for a confirmation check, prior to discharge to TEDF[6].

One proposal considered is the installation of a stand-by, permanently installed treatment system. The system would employ a filtration system with the capability to remove a full range of particle sizes, and approximately 6-8 columns suitable for use with a variety of resins and adsorbents. Use of a particular resin or adsorbent would depend on the nature of the wastes to be treated. Resins and adsorbents would be disposed of as waste, rather than regenerated. As noted earlier, the system could be co-located in the truck load-out. Design details such as flow rate, filter methods, resin and/or adsorbent types, and needed weather-proofing, secondary containment, controls, and monitors, will have to considered before any firm cost estimates can be made. Flexibility is considered essential, as the volume and make-up of effluent requiring treatment cannot be precisely predicted in advance. This system is estimated to cost ~$600K.

A second, lower capital cost treatment option utilizes a permanently installed filtration system and commercially available complete demineralization columns that would be employed on a "use/dispose" basis. Complete demineralization removes all contaminants of concern to TEDF acceptance criteria, and recognizes the limited shelf lives of many specialized resins[7]. The relative increase in solid wastes is a factor, but the disposal costs of secondary wastes are ~$200/drum. If liquid in the basins requires treatment, IX columns from a local vendor may be purchased for ~$1,200. These columns can treat approximately 10,000 gal of 75 ppm alkalinity water, with the end product being 18 Megohm water. The number of columns required will depend on total dissolved solids loading in the basin water, and the loaded columns would be disposed of as solid waste. A rough order of magnitude cost estimate for installation of this system is around $200k. Costs above do not reflect the air permitting and other regulatory tasks captured elsewhere.

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[6] This return line could share a trench with the proposed new RPS diversion line to basin #4, discussed in footnote 4 (Section 3.3.1).

[7] Most ion exchange resins need to be stored in a layup condition, which requires regeneration prior to use. An alternative to this would be to store the resins in a layup solution containing biocides, but the resins would still require significant flushing prior to use. Purchase of specialty resins on a short turnaround basis may be an alternative to storing resins, but procurement of the specialty resins may prove difficult.

Upgrades for remote monitoring may still be needed to minimize facility inspections.

The facility is currently inspected daily, seven days a week. This inspection covers operations equipment as well as the essential systems defined earlier. As systems are phased out the inspection frequency may be reduced. The long term goal is to reduce or eliminate facility inspection for the period leading up to final decontaminating & decommissioning.

Other conditions that are expected (DOE 1995b) upon completion of deactivation include: removal of all unneeded supplies/spares/tools, closing all building penetrations, repairing any roof leaks, servicing monitoring systems, cleaning and releasing radiological zones, ensuring drawings are up-to-date, finalizing outstanding UO, ON, and other occurrence reports, and securing all entrances. The schedule in 4.0 lumps these activities under "Misc. Deactivation Tasks"; where details await scheduling in the PMP and other later documents.

3.5 Budget process

Preliminary cost projections for tentative work scope have been developed via Basis of Estimate worksheets. These will be incorporated through the normal budget process which utilizes Activity Data Sheets (ADS), Risk Data Sheets (RDS), and the multi-year program plan (MYPP). Budget planning takes place in the year(s) preceding actual work. Funding is subject to changes in availability with each fiscal year. The shutdown of 340 is new work scope and funding sources are currently under development.

4.0 SUMMARY SCHEDULE/BUDGET

This section provides a schedule/budget synopsis of the principle undertakings associated with this plan. The activities associated with the deactivation of 340, as outlined in the four sub-sections of 3.0, fall into the following basic areas:

Interim operation
- run-to-fail classification
- preventive maintenance on essential SSCs only
- Record Management updates
- prepare project management plan

Deactivation of 340, decon area and vault, 340-A, and 340-B east
- blank RLWS lines
- terminal clean-out of wastes
- process equipment/material surplusing

Replacement for 340 and rail services
- RPS re-routing and de-coupling
- 307 load-out and standby treatment facility
- includes the 325 upgrade and 204-AR modifications

Preparations for S&M phase
- negotiate end-point criteria
- evaluate and effect upgrades to facilities/support systems

Figure 4-1 presents these activities on a detailed schedule using PX (Project 2/Series X) scheduling software. Table 4-1, following the outline of Figure 4-1, summarizes some of the preliminary cost estimates available at this time for most of the tasks. Note that this integrated list includes baseline operating and maintenance budgets which are currently identified in MYPP planning documents, as well as other costs (such as for the 204-AR and 325 laboratory modifications) that fall largely[8] outside the scope of this plan. ICF-Kaiser Hanford cost estimating services assisted in the development of the "study estimates" that support most of the values presented in Table 4-1.

As is obvious from the assumptions presented in 1.3, changes in budget, rail availability, lab missions, waste volumes, regulations, etc., could impact these projections. Also, certain tasks (such as preparations for the S&M phase) must await the results of intervening work (in this example, acceptable end-point criteria, and facility condition post-TCO) before they can be scoped with any confidence. Therefore, as this effort proceeds, official budget planning instruments (see 3.5) should be consulted for better break-out and more up-to-date information. Subsequently planned project and programmatic decommissioning documentation will also provide more detail.

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[8] Some of the aforementioned baseline O&M costs may be impacted by activities proposed by this plan (e.g., greater need for revising the safety basis, added waste samples, increased work package preparation and tracking, etc.), and its also possible that design work associated with the latter projects could be adopted for some of the 340 efforts.

WESTINGHOUSE HANFORD COMPANY
340 FACILITY SHUTDOWN PLAN
FY-96/FY-01

Drawn by Steve Sanborn 373-3294
8/15/96

Activity ID #	Title		Start	Finish
1A234X010C – 340 DECON AREA INV REDUCTION				
1A234X010C	340 BLDG DECON AREA INVENTORY REDUCTION	314.00 D	08/03/98	10/23/99
1A234X010C01	PREPARE WORK DOCUMENTS/PLANNING	64.00 D	08/03/98	10/30/98
1A234X010C03	DECON / FLUSH SAMPLE SYSTEM	40.00 D	11/02/98	12/31/98
1A234X010C05	REMOVE SAMPLE SYSTEM & PIPING /CAP LINES	19.00 D	01/04/99	01/28/99
1A234X010C07	DECON / FLUSH ROOM AND SUMP	20.00 D	01/29/99	02/26/99
1A234X010C08	SHIP TO TANK FARMS	23.00 D	03/01/99	03/31/99
1A234X010C09	REMOVE SUMP PUMP & PIPING / CAP LINES	22.00 D	04/01/99	04/30/99
1A234X010C11	EVALUATE NEED FOR SUPPORT SYSTEMS	140.00 D	03/15/99	09/30/99
1A234X010C13	UPDATE FACILITY DOCUMENTATION	148.00 D	04/01/99	10/23/99
1A234X010D – 340 VAULT TANK INV REDUCTION				
1A234X010D	340 VAULT TANK INVENTORY REDUCTION	401.00 D	03/01/99	09/23/00
1A234X010D01	INTERNAL INSPECTION OF TANKS	45.00 D	03/01/99	04/30/99
1A234X010D05	EVALUATE METHODS FOR CLEANOUT, IF NECESSARY	62.00 D	05/03/99	07/30/99
1A234X010D07	SELECT APPROACH AND PREPARE WORK PLAN	29.00 D	08/02/99	09/10/99
1A234X010D09	PERFORM WORK	35.00 D	09/13/99	10/29/99
1A234X010D10	SHIP TO TANK FARMS	20.00 D	11/01/99	11/30/99
1A234X010D11	EVALUATE EFFECTIVENESS/REWORK AS NECESSARY	20.00 D	12/01/99	12/30/99
1A234X010D13	DOCUMENT OUTCOME	20.00 D	01/03/00	01/28/00
1A234X010D15	EVALUATE NEED FOR SUPPORT SYSTEMS	147.00 D	01/03/00	07/31/00
1A234X010D17	UPDATE FACILITY DOCUMENTATION	170.00 D	01/31/00	09/29/00
1A234X010E – 340B EAST INVENTORY REDUCTION				
1A234X010E	340B EAST INVENTORY REDUCTION	250.00 D	04/03/00	03/30/01
1A234X010E01	PREPARE WORK DOCUMENTS / PLANNING	42.00 D	04/03/00	05/31/00

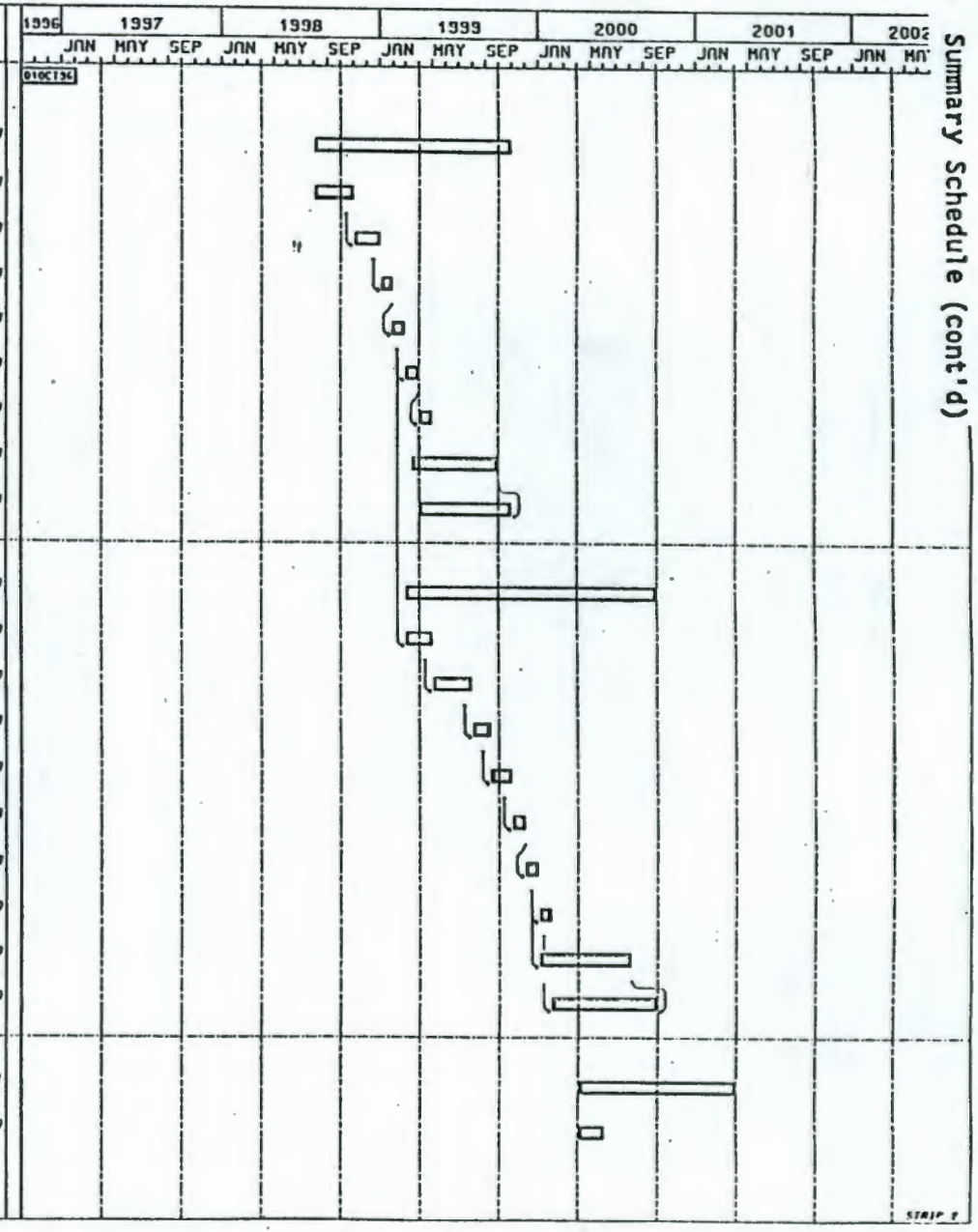


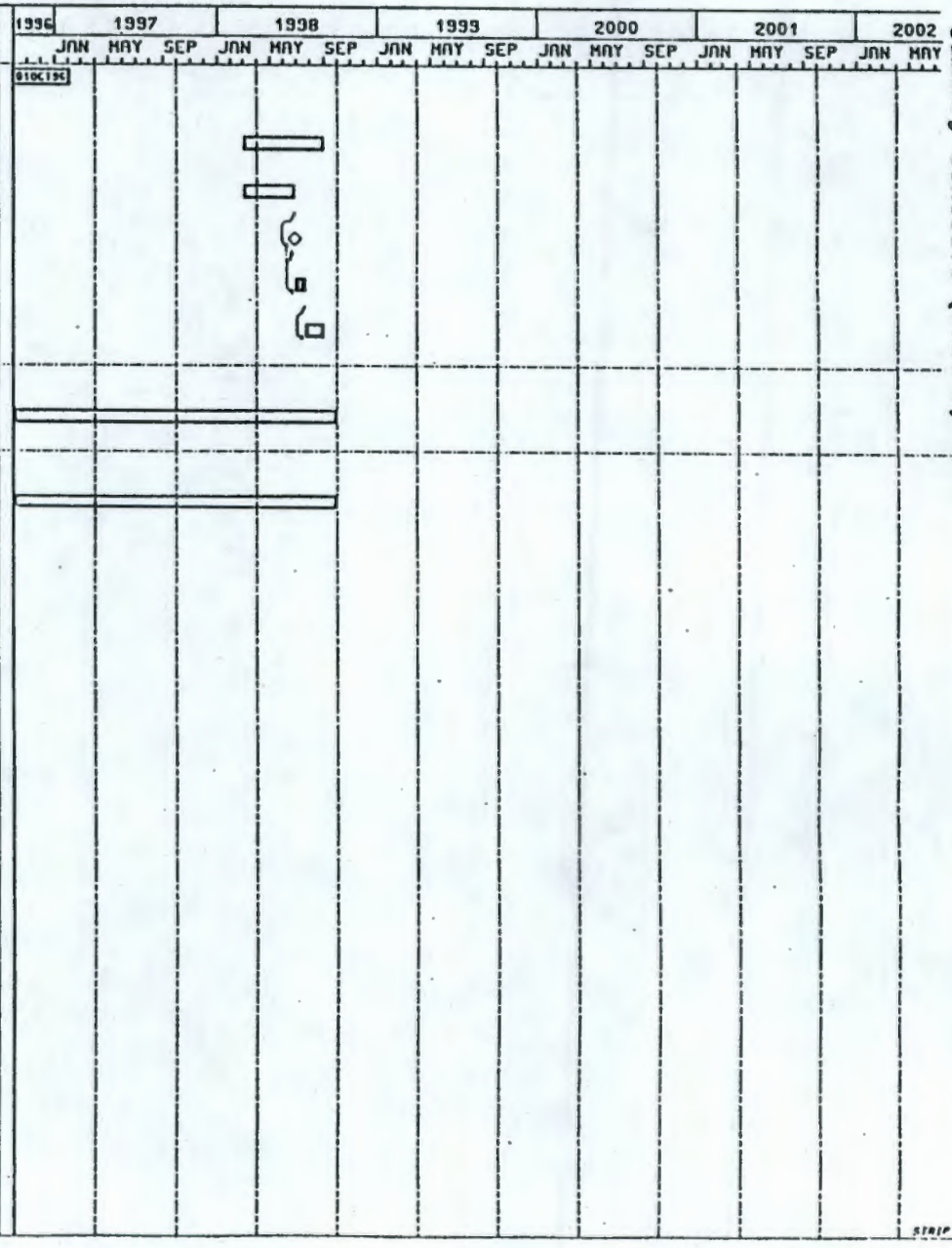
Figure 4-1 Summary Schedule (cont'd)

Figure 4-1 Summary Schedule (cont'd)

WESTINGHOUSE HANFORD COMPANY
340 FACILITY SHUTDOWN PLAN
FY-96/FY-01

Drawn by Steve Sanborn 373-3294
8/15/96

Activity ID #	Title		Start	Finish
4A235X010A	**- 307 / RPS - MOD. / CONSTRUCTION**			
4A235X010A	307 RPS LOADOUT / TREAT MOD. CONSTRUCTION	127.00 D	03/02/98	08/31/98
4A235X010A01	MOD. / CONSTRUCTION OF 340 LOADOUT / TREATMENT	84.00 D	03/02/98	06/26/98
4A235X010A03	MOD. / CONST. COMPLETE 340 LOADOUT / TREATMENT	0.00 D	06/26/98	06/26/98
4A235X010A05	ATP 307 RPS MOD. LOADOUT / TREATMENT	13.00 D	06/23/98	07/20/98
4A235X010A07	PROJECT CLOSEOUT 307 MOD. LOAD / TREAT/CONST	30.00 D	07/21/98	08/31/98
(PNNL)	**- 325 RLW MODIFICATIONS**			
P-325	325 RLW Modifications (PNNL)	439.00 D	10/01/96	03/30/98
(TWRS)	**- 204 AR UPGRADES**			
T-204	204 AR Modifications (TWRS)	439.00 D	10/01/96	03/30/98



5.0 REFERENCES

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Attachment 8

300 AREA PROJECT MEETING
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

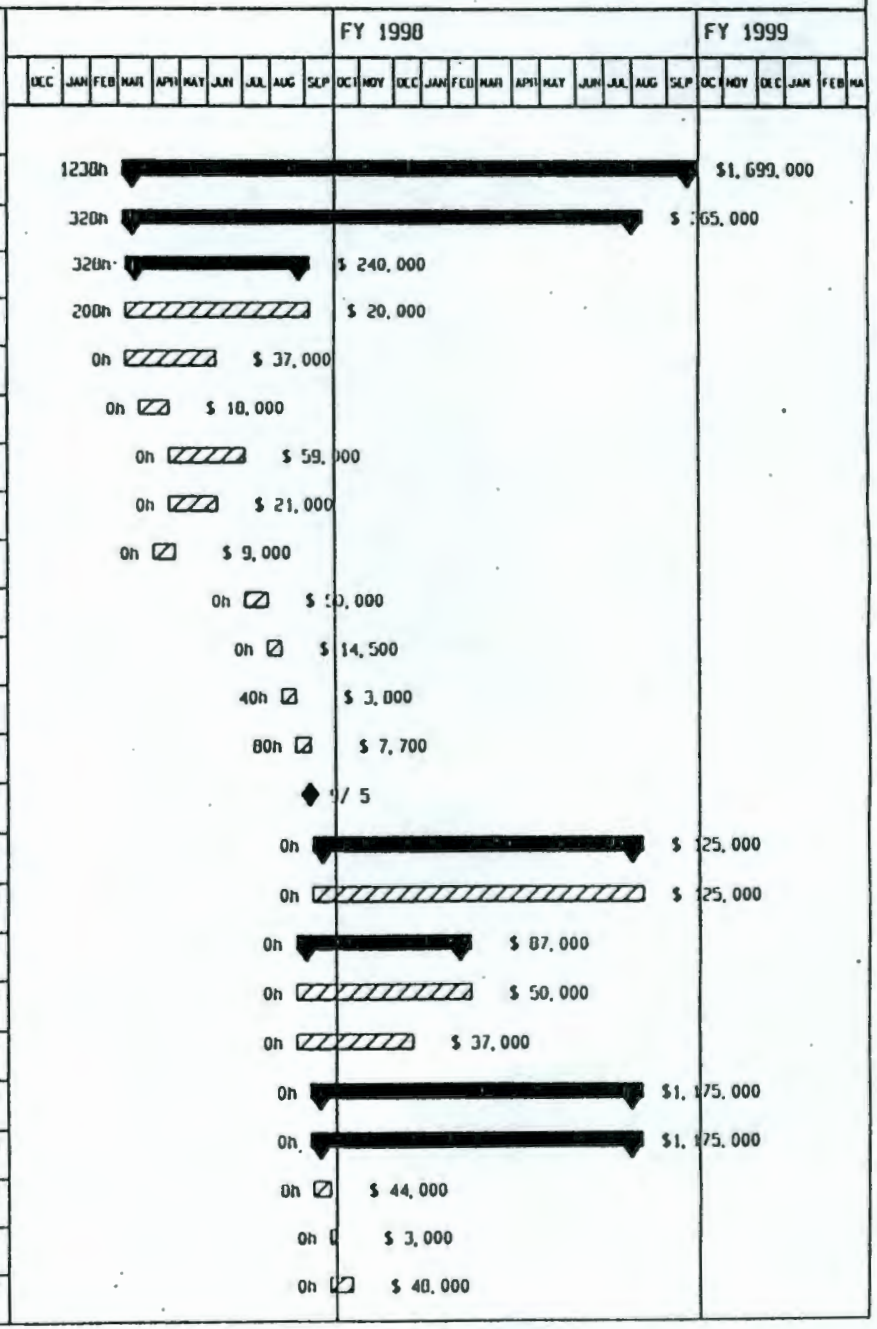
RLW Load-out Modification Schedule

D-472 325 RLW Load-out Modification

Total Project - All Activities Selected

Report File: FESOFT2.OMP

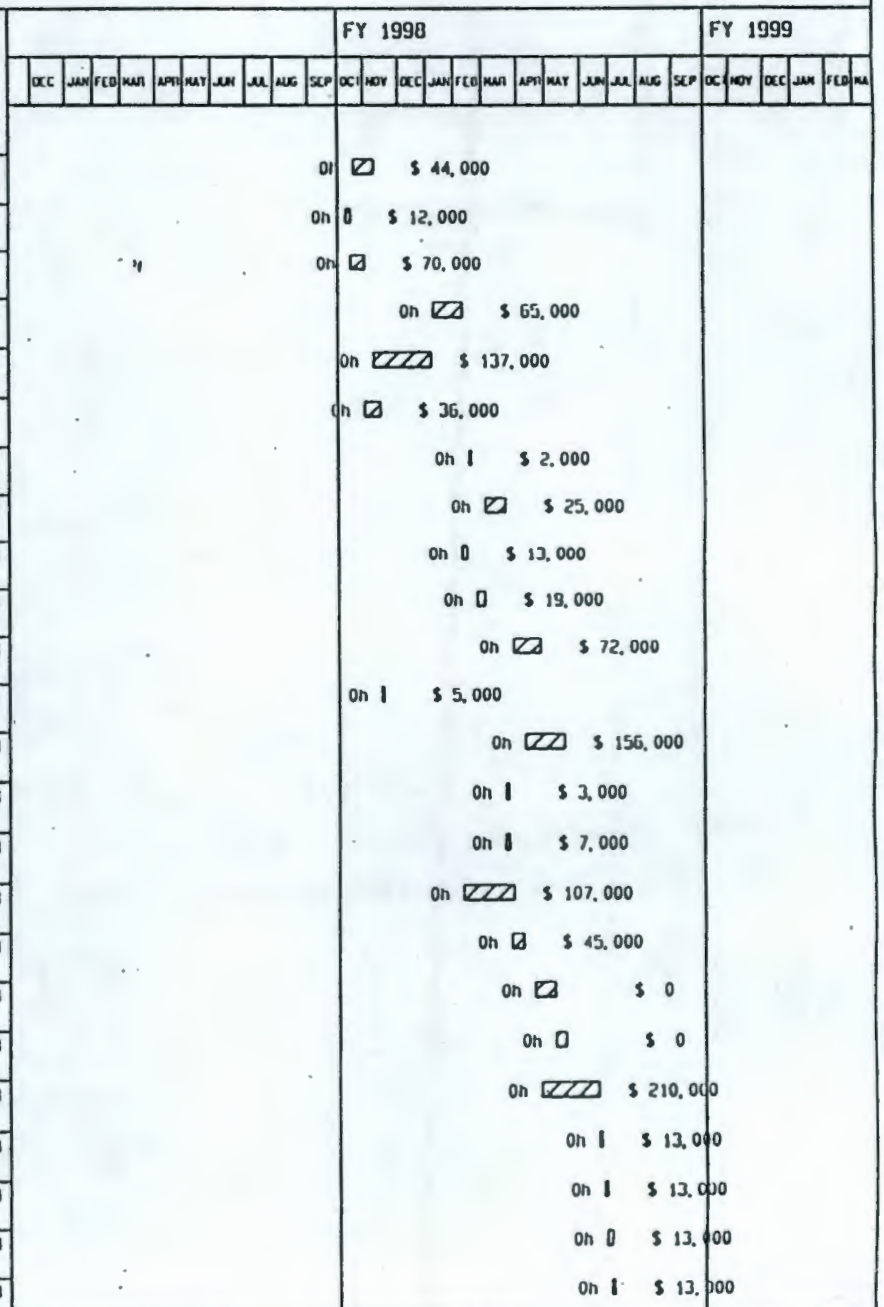
	Task/Activity ID	Title	Dur'n	Start	Finish
1	D01409	325 Building - RLW Load-out Tank (D-472)	400	20-FEB-97	30-SEP-98
2	D01409.1	Engineering-RLW Load-out Tank	361	20-FEB-97	05-AUG-98
3	D01409.1.1	Definitive Design-325 Building - RLW Load-out Tank	131	03-MAR-97	05-SEP-97
4	D01409.1.1.0005	Provide Design Coordination/PM	131	03-MAR-97	05-SEP-97
5	D01409.1.1.0010	Provide Architectural Design	65	03-MAR-97	02-JUN-97
6	D01409.1.1.0020	Provide Structural Design	22	17-MAR-97	15-APR-97
7	D01409.1.1.0030	Provide Mechanical Design	54	16-APR-97	01-JUL-97
8	D01409.1.1.0040	Provide Electrical Design	34	16-APR-97	03-JUN-97
9	D01409.1.1.0050	Provide Fire Protection Design	16	31-MAR-97	21-APR-97
10	D01409.1.1.0060	Independent/InterDiscipline/Constructability Reviews	15	02-JUL-97	24-JUL-97
11	D01409.1.1.0070	Incorporate Review Comments	10	25-JUL-97	07-AUG-97
12	D01409.1.1.0080	Sign-Off and Release Drawings	10	08-AUG-97	21-AUG-97
13	D01409.1.1.0090	Obtain RAP/Permits	10	22-AUG-97	05-SEP-97
14	D01409.1.1.0100	Design Complete	0		05-SEP-97
15	D01409.1.2	Engineering & Inspection-RLW Load-out Tank	229	08-SEP-97	05-AUG-98
16	D01409.1.2.0010	Provide E & I	229	08-SEP-97	05-AUG-98
17	D01409.2	Procurement	120	22-AUG-97	13-FEB-98
18	D01409.2.0010	Procure Tank	120	22-AUG-97	13-FEB-98
19	D01409.2.0020	Procure Pumps/Valves etc.	80	22-AUG-97	16-DEC-97
20	D01409.3	Construction-RLW Load-out Tank	229	05-SEP-97	04-AUG-98
21	D01409.3.1	CF Construction-RLW Load-out Tank	229	05-SEP-97	04-AUG-98
22	D01409.3.1.0050	Demo Greenhouse, Walls, Plate/Dispose	13	08-SEP-97	24-SEP-97
23	D01409.3.1.0060	Form/Place/Finish Control Room Slab	3	25-SEP-97	29-SEP-97
24	D01409.3.1.0070	Install Line #1 (H/G to Tank)	16	25-SEP-97	16-OCT-97



Total Project - All Activities Selected

Report File: FESOFT2.GRP

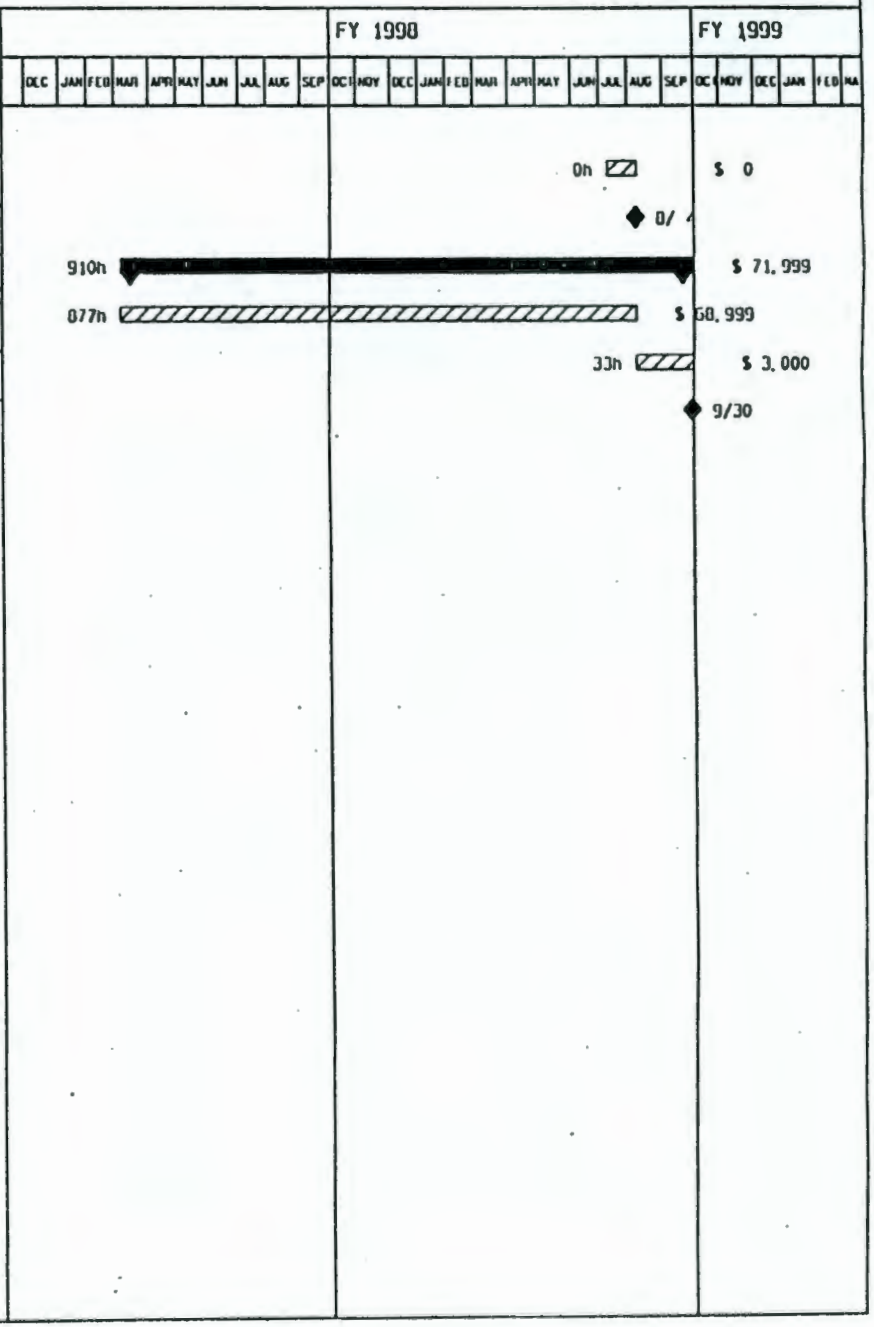
	Task/Activity ID	Title	Dur'n	Start	Finish
25	D01409.3.1.0080	Perform Shop Work for Line #3 (Rm. 50A to Tank)	14	17-OCT-97	05-NOV-97
26	D01409.3.1.0090	Install Pit Liner	3	09-OCT-97	13-OCT-97
27	D01409.3.1.0100	Build Control Room	10	14-OCT-97	27-OCT-97
28	D01409.3.1.0110	Perform Shop Work for Line #2 (Rm. 520 Drain to Tank)	21	05-JAN-98	02-FEB-98
29	D01409.3.1.0120	Install Line #3 Piping	37	06-NOV-97	02-JAN-98
30	D01409.3.1.0130	Modify/Enlarge 325A Truck Area	12	20-OCT-97	12-NOV-97
31	D01409.3.1.0140	Fabricate Hood	2	09-FEB-98	10-FEB-98
32	D01409.3.1.0150	Install Hood & Duct	14	25-FEB-98	16-MAR-98
33	D01409.3.1.0160	Fab A-Frames	5	02-FEB-98	06-FEB-98
34	D01409.3.1.0170	Set Tank	6	17-FEB-98	24-FEB-98
35	D01409.3.1.0180	Perform Shop Work for Line #4 (Tank to Cask Loading)	19	25-MAR-98	20-APR-98
36	D01409.3.1.0190	Install Truck Area Exhaust	2	13-NOV-97	14-NOV-97
37	D01409.3.1.0200	Install Electrical/Instrumentation	29	06-APR-98	14-MAY-98
38	D01409.3.1.0210	Install Fire Protection in Tank Room	3	17-MAR-98	19-MAR-98
39	D01409.3.1.0220	Install Vacuum Air Sample Drops	4	17-MAR-98	20-MAR-98
40	D01409.3.1.0230	Install Line #2 Piping	35	03-FEB-98	24-MAR-98
41	D01409.3.1.0240	Form/Place/Finish Elevated Slab	10	23-MAR-98	03-APR-98
42	D01409.3.1.0245	Set Pumps & Equipment/Make Connections	14	15-APR-98	04-MAY-98
43	D01409.3.1.0247	Construct Pit Room	8	05-MAY-98	14-MAY-98
44	D01409.3.1.0250	Install Line #4 Piping	40	21-APR-98	16-JUN-98
45	D01409.3.1.0260	Tie-in/Flush & Test Line #1	3	17-JUN-98	19-JUN-98
46	D01409.3.1.0270	Tie-in/Flush & Test Line #2	3	22-JUN-98	24-JUN-98
47	D01409.3.1.0280	Tie-in/Flush & Test Line #3	3	25-JUN-98	29-JUN-98
48	D01409.3.1.0290	Tie-in/Flush & Test Line #4	3	30-JUN-98	02-JUL-98



Total Project - All Activities Selected

Report File: FESOFT2.GRP

	Task/Activity ID	Title	Dur'n	Start	Finish
49	001409.3.1.0295	AIP of System	21	07-JUL-98	04-AUG-98
50	001409.3.1.0300	Construction Complete	0		04-AUG-98
51	001409.4	Project Integration-RLW Load-out Tank	399	03-MAR-97	30-SEP-98
52	001409.4.0010	Provide Project Management	359	03-MAR-97	04-AUG-98
53	001409.4.0020	Close-out Project	40	05-AUG-98	30-SEP-98
54	001409.4.0030	Project Complete	0		30-SEP-98

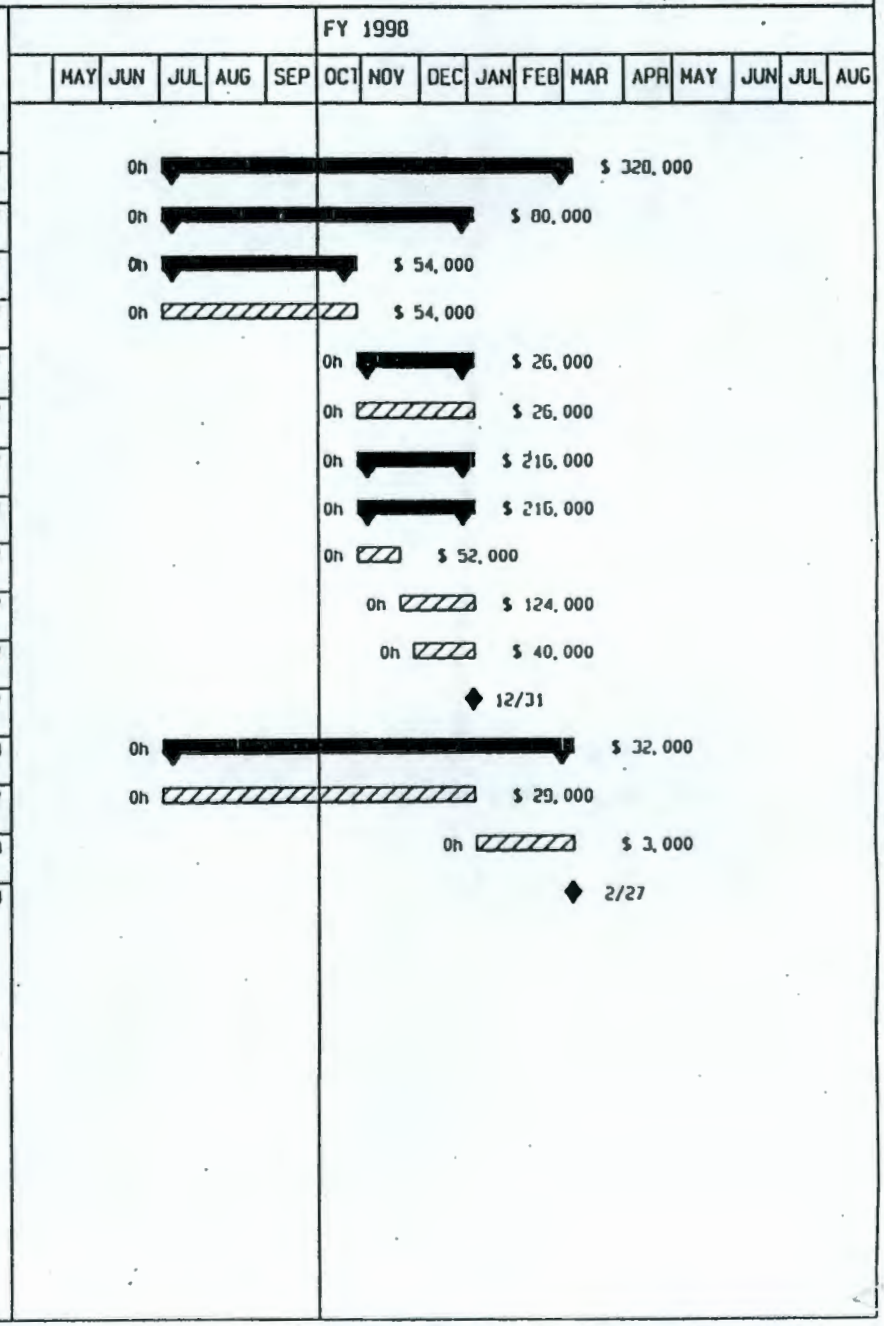


D-472 - 204-AR Modifications

Total Project - All Activities Selected

Report File: FESOFT2.GRP

	Task/Activity ID	Title	Dur'n	Start	Finish
1	D01XXX	204-AR Modifications (D-472)	165	01-JUL-97	27-FEB-98
2	D01XXX.1	Engineering - 204-AR Modifications	125	01-JUL-97	31-DEC-97
3	D01XXX.1.1	Definitive Design	80	01-JUL-97	23-OCT-97
4	D01XXX.1.1.0010	Provide Definitive Design	80	01-JUL-97	23-OCT-97
5	D01XXX.1.2	Engineering & Inspection	45	24-OCT-97	31-DEC-97
6	D01XXX.1.2.0010	Provide E & I	45	24-OCT-97	31-DEC-97
7	D01XXX.3	Construction	45	24-OCT-97	31-DEC-97
8	D01XXX.3.1	CF Construction	45	24-OCT-97	31-DEC-97
9	D01XXX.3.1.0010	Shop Fab Manifolds/Piping	17	24-OCT-97	17-NOV-97
10	D01XXX.3.1.0020	Install Piping/Equipment	28	18-NOV-97	31-DEC-97
11	D01XXX.3.1.0030	Modify Electrical & Instrumentation	22	26-NOV-97	31-DEC-97
12	D01XXX.3.1.0040	Construction Complete	0		31-DEC-97
13	D01XXX.4	Project Integration	165	01-JUL-97	27-FEB-98
14	D01XXX.4.0010	Provide Project Management	125	01-JUL-97	31-DEC-97
15	D01XXX.4.0020	Close-out Project	40	02-JAN-98	27-FEB-98
16	D01XXX.4.0030	Project Complete	0		27-FEB-98



Attachment 9

300 AREA PROJECT MEETING
Project Managers Meeting
337 Building, Mt. Rainier, 3rd Floor North
Richland, Washington

January 9, 1997
2:00 p.m. to 3:00 p.m.

340 Waste Handling Facility Deactivation Plan

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

December 9, 1996

Mr. Robert T. Stordeur
300 Area Effluent Facilities
Rust Federal Services of Hanford, Inc.
P.O. Box 700
Richland, WA 99352

Dear Mr. Stordeur:

REVIEW AND COMMENTS OF THE 340 WASTE HANDLING FACILITY DEACTIVATION PLAN

Ref: (1) Letter from W.J. Apley, PNNL Associate Laboratory Director for Operations, to R.F. Christensen, Director, Science & Technology Operations Division, U.S. Department of Energy, dated May 20, 1996.

(2) Letter from A.J. DiLiberto, Director, Liquid Effluents Services Project and Site Services, to W.J. Apley, PNNL Associate Laboratory Director for Operations, dated July 1, 1996, subject as above.

(3) Letter from A.J. DiLiberto, Director, Facilities & Operations, Liquid Effluents Services Project and Site Services, to W.J. Apley, PNNL Associate Laboratory Director for Operations, dated July 17, 1996, "Source Term Update for the Future 300 Area Retention Process Sewer Effluents."

(4) Letter from W.J. Apley, PNNL Associate Laboratory Director for Operations, to A.J. DiLiberto, Director, Liquid Effluents Services Project and Site Services, dated August 6, 1996, subject as above.

In response to your request, please refer to the attached schedule and reference letters for proposed modifications to the 325 and 204 AR Facilities. These proposed modifications support the planned end of waste transfers from the Pacific Northwest National Laboratory (PNNL) via the 300 Area Radioactive Liquid Waste System to the 340 Waste Handling Facility.

Battelle Boulevard ■ P.O. Box 999 ■ Richland, WA 99352

Telephone (509) 375-5911 ■ Email wj_apley@pnl.gov ■ Fax (509) 375-6844

Funding remains the major unresolved obstacle to these proposed modifications due to the overall Hanford Site budget process. According to the attached project schedules, the installation of the 3000-gal permitted tank and load-out station in the 325 Building and piping and system modifications to support the unloading of the LR-56 tanker at the 204 AR Facility require that fiscal year 1997 project funds be authorized and issued by February 28, 1997. This authorization date supports the planned end of waste transfers to the 340 Waste Handling Facility on August 28, 1998. If the funding issues remain unresolved, then the 340 Waste Handling Facility deactivation plan will require modification and revision to allow continued waste transfers from PNNL facilities.

Our current understanding is that both FY97 and FY98 funding for the necessary 325 modifications is below the line, though that decision is still being reviewed given the compliance and cost-savings issues associated with continued 340 operation. A proposal has been submitted by PNNL under the Hanford Site Return-On-Investment (ROI) process to cover the initial costs for the 325 tank system. Finally, please be aware that current shortfalls in funding for the Building 324 B-Cell cleanup may require longer-term use of 340.

In addition, for your review and in response to the request from the U.S. Department of Energy, PNNL has attached a draft Categorical Exclusion that addresses the 325 and 204 AR modification projects and the deactivation of the 340 Waste Handling Facility.

If you have any questions, please contact Mr. Van W. Briggs on 372-2735.

Sincerely,

Walter J. Apley, Ph.D., P.E.
Associate Laboratory Director for Operations

WJA/VWB:lw

Attachments

cc: MA Barnard, RL
TL Davis, RL
GR Tardiff, LMH
GO Hayner, B&W
EM Bowers, WPD
LD Romine, TPD
MF Jarvis, TSD
EB Dagan, WPD

bcc: MJ Bagaglio
VW Briggs
SL Jones
ME Olson
MJ Riess
HM Jones
RS Weeks
File/LB
5607

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M. Ciminiera	GSSC	B1-42
M. F. Jarvis	RL	K8-50
S. K. Johansen	GSSC	A4-35
S. L. Jones	PNNL	P7-72
D. C. Langstaff	RL	K8-50
E. M. Mattlin	RL	A5-15
M. W. McCoy	PNNL	P7-79
J. J. Wallace	Ecology	B5-18
P. J. Weaver	B&W	P7-35
H. T. Tilden	PNNL	P7-79
RCRA Files/JM	WHC	H6-23

ADMINISTRATIVE RECORD (Two Copies): 300 Area Projects, S-3-4 [Care of EDMC, WHC (H6-08)]

Washington State Department of Ecology Nuclear and Mixed Waste Hanford Files, P.O. Box 47600, Olympia, Washington 98504-7600

Please send comments on distribution list to J. D. McAtee (P7-79)